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VOLUME VI-A.

KARNAL DISTRICT

1918.

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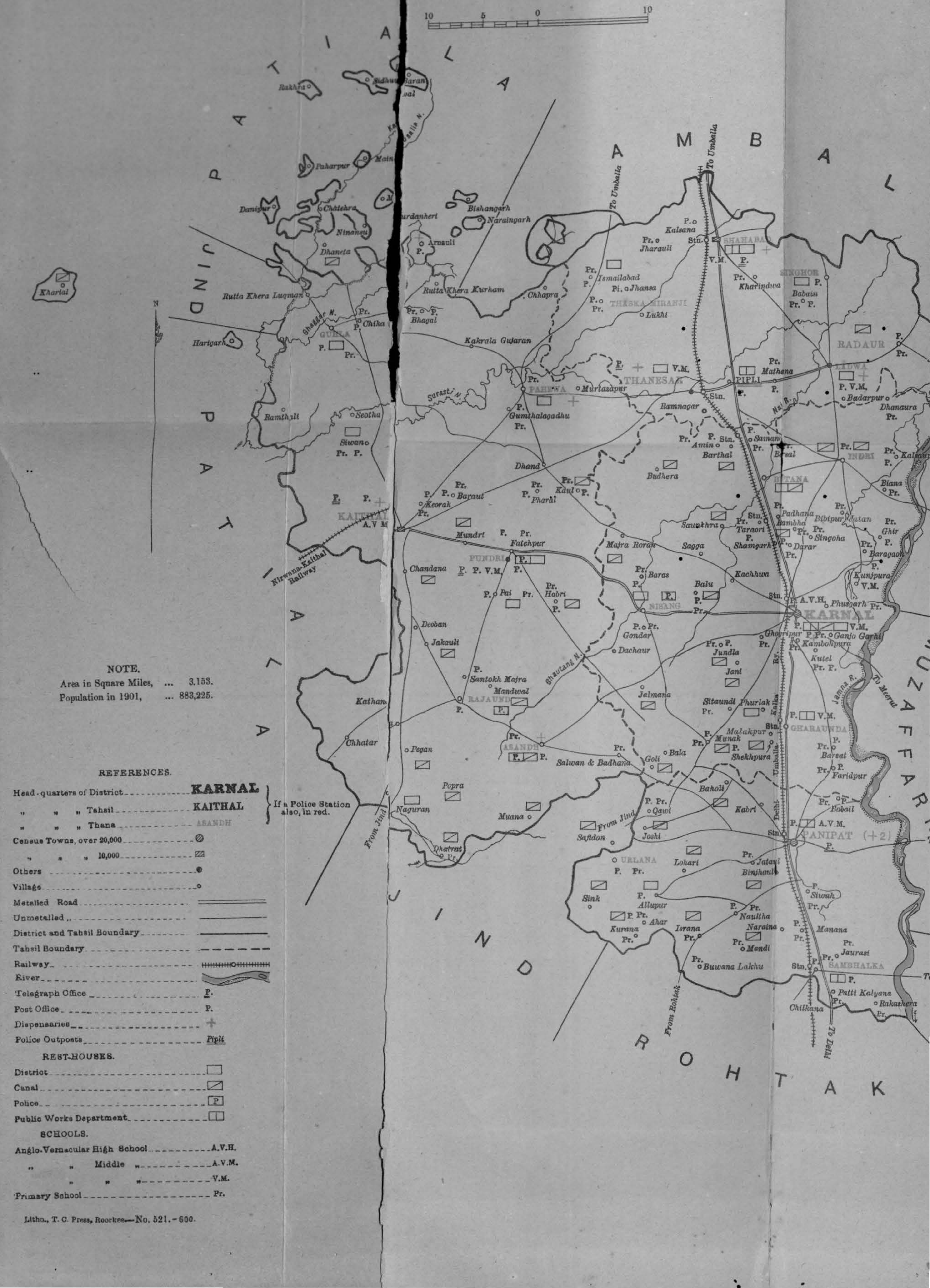
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OF THE
KARNAL DISTRICT.

(No. 3).

Scale—1 Inch = 8 Miles.



NOTE.

Area in Square Miles, ... 3.153.

Population in 1901, ... 883,225.

REFERENCES.

Head-quarters of District	KARNAL	If a Police Station also, in red.
" " Tahsil	KAITHAL	
" " Thana	ASANDH	
Census Towns, over 20,000		
" " 10,000		
Others		
Village		
Metalled Road		
Unmetalled "		
District and Tahsil Boundary		
Tahsil Boundary		
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River		
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PUNJAB

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WITH MAPS

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1919.

PREFACE.

THIS Gazetteer, delayed as it is in publication from various causes, can claim no measure of originality. Its chief merit is that it reproduces much of Sir Denzil Ibbetson's description of life and manners in the Karnal District. The sections dealing with Settlement are taken from the last Settlement Report of the District.

Most of the sections dealing with Administration have been brought up to recent date by the District authorities.

TABLE OF CONTENTS.

CHAPTER I.—DESCRIPTIVE.

Section A.—Physical Aspects.

Boundaries and dimensions.

THE present Karnal district has an area of 3,128 square miles. The river Jumna forms its eastern boundary, and across that river the district is faced by the districts of Saharanpur, Muzaffarnagar and Meerut in the United Provinces. To the north lie the Jagadhri and Ambala tahsils of the Ambala district, while the north-west and western boundaries are formed by the Patiala and Jind States. On the south are the Gohana tahsil of the Rohtak district and the Sonepat tahsil of the Delhi district.

The extreme breadth of the district is 44 miles and the extreme length 64 miles.

Physical features.

The district comprises four tahsils, Panipat, Karnal, Thanesar and Kaithal. It is traversed from north to south by the watershed between the Indian Ocean and the Bay of Bengal. To the east of the watershed is the Khadir or riverain tract of the Jumna, west of the watershed lies the Bangar, an upland plain stretching parallel to the Khadir throughout its entire length. These two divisions are common to the three eastern tahsils, Panipat Karnal and Thanesar. In Karnal and Kaithal, however, to the west of the Bangar, stretches a high and once arid country known as the Nardak, to the west of which again lies the Bangar tract of the Kaithal tahsil, resembling the uplands of Rohtak and Hansi. The Bangar tracts, except in Thanesar, and the whole of the Nardak are now fully irrigated by the Western Jumna Canal. In the north of the district, in the Thanesar tahsil and the Guhla sub-tahsil of Kaithal, the country to the west of the Bangar is traversed by a series of hill torrents, of which the most important are the Markanda, Umla, Sarusti, Chautang and Rakshi. On the action of these streams the prosperity of this northern tract depends. Their influence is shown in the great diversity of soils they have formed, from the fertile loam of the Markanda Bet to the stiff clay of the Chachra and Naili covered with dense thickets of *dhak* (butea frondosa). The Ghaggar may be said to form the northern boundary of the district, but beyond it are a few outlying estates scattered in Patiala territory belonging to the Jagirdars of Arnauli and Sidhowal and included in British territory for political reasons. They lie in an extensive plain intersected by sand hills, but with many rich loamy hollows in which well cultivation is easy and profitable.

CHAP. I. A.

Physical Aspects.

Physical features.

The district is everywhere well wooded. The fertile fields of the Khadir and Bangar are studded with groves of mangoes and *jamoa*, while in the Nardak, Chachra and Naili the masses of *dhak* trees form the feature of the landscape varied by the *pipal*, *bhor*, and *pilkhan*. The palm tree is plentiful in the Khadir, and the *kikar* is often found, but the *shisham* is comparatively rare except where planted on canal banks or by the roadside. A number of trees not indigenous to the district are found on the old Imperial canal. Grasses are plentiful in the Bangar and Nardak, the best for grazing being *dubra*, *anjan* and *palwa*. *Panni* is useful for thatching. The Khadir produces most inferior grazing, except near the Jumna where the grass is protected by the fringe of *jhao* brushwood adjoining the river bed.

The Jumna and flood channels.

In the months of July, August and September when the river is in flood and good rainfall has reduced the demand for canal water, the Jumna is a formidable river. Its waters often cause considerable damage to villages on its banks, and penetrating inland through the numerous flood channels intersecting the Khadir are anything but beneficial to the *kharif* crop. The silt of the Jumna is not so valuable as the silt of the Punjab rivers. The deposit contains too much sand. At the same time the villages whose *kharif* crops are damaged are undoubtedly gainers in the *rabi*. Of the flood channels which traverse the Khadir tract the most important are the Nun in the northern Indri Khadir, the Puran or old Jumna near Kunjpura, and the Dolaha which flows through *Barsat* and occasionally brings floods as far inland as Panipat city. At present the set of the river in the Karnal tahsil is towards the districts of the United Provinces, and a considerable area was added to the Karnal district in 1908. In the Panipat and Thanesar tahsils, however, the set is towards the Punjab or right bank, and some of the best land in the district, including many valuable wells, has been carried away during the last few years.

Canal escapes.

Whenever there is a slackening in the demand for water in the districts served by the Western Jumna Canal the canal authorities dispose of the surplus supply collected in the upper reaches of the canal through large escapes which conduct the water back into the Jumna and form somewhat important features in the agriculture of the Khadir. These escape channels after a short artificial course tail off into some natural depression leading to the river. The Kunjnu and Dhanaura escapes, which take out of the canal above

CHAP. I. A.

Physical Aspects.

Canals escapes.

Indri, have a short course and have little effect on the country through which they pass. But the Indri escape or Budha Khera Nala and the Rer escape or Khojgipur Nala are more important. The former takes the surplus water from the Indri lock down through the channel of the old Western Jumna Canal to Budha Khera a few miles north-east of Karnal and thence by an old channel into the Jumna. The body of water thus disposed of is considerable and the moisture benefits a few villages near Indri. The junction of this channel with the main stream of the Jumna at Kairwali gives rise to heavy floods in some riverain villages in the vicinity. The effect is not always beneficial and the large village of Barsat has been particularly unfortunate. The deep catch water drain, known as the Rer or Munak escape, and to the *zamindars* as the Khojgipur or Ganda Nala, carries surplus water from the Munak regulator and drains the south of the Karnal tahsil. It has been much improved since settlement. The banks have been strengthened and the channel bridged in several places. From Babail its course has been changed, thus removing a source of danger to some prosperous riverain villages of the northern Khadir. Instead of holding up the floods as at settlement it conveys them along with the surplus canal water through an old winding arm of the river to join the Jumna at Khojgipur, some 12 miles south of its former outfall.

The Western Jumna Canal.

The old canal at the time of Mr. Ibbetson's Karnal Settlement still ran from Indri downwards in the old channel which was practically identical with the Badshahi Canal constructed by the Moghals. It wound its course through the Khadir, and did not enter the Bangar till it reached the old Imperial bridge on the Grand Trunk Road four miles south of Karnal. The evils which resulted from faulty alignments, disregard of the natural drainage, and excessive irrigation are described at length in Mr. Ibbetson's Karnal Settlement Report (paragraphs 159-169).

Fortunately the state of affairs described by Mr. Ibbetson had not long to wait for a remedy. The re-alignment of the main line from Indri to Munak and of the distributaries was actually being carried out when Mr. Ibbetson wrote, and in August 1885 the old canal between Indri and Rer was finally closed and relegated to its proper position as a drainage line.

From Tajewala in the Ambala district, where the Western Jumna Canal takes out of the Jumna, as far as Indri

CHAP. I. A.

Physical Aspects.

The Western Jumna Canal.

the alignment of the old Badshahi Canal is followed with but few modifications. This reach is really an arm of the Jumna pressed into service by the original constructors of the canal, and has now to carry the whole supply of the modern system. Two-thirds of as much of the Jumna River water as is available for irrigation is taken as far as Indri in one united stream, the volume of which since the opening of the Sirsa Branch greatly exceeds that carried at last settlement. In this reach considerable damage has been caused by percolation owing to the water held up at the Indri regulator to supply the Sirsa Branch which leaves the Main Canal at this point.

Below Indri the main canal continues navigable as far as Delhi. Between Indri and Munak, where the Hansi Branch strikes westwards to irrigate Jind and Hissar, several subsidiary channels are given off. The Nardak Distributary constructed in 1897-98 takes out of the main line at Uchana and gives much needed irrigation in the Nardak tracts of Karnal and Kaithal. The Budha Khera and Karnal Distributaries irrigate land in the vicinity of Karnal town. The Bazida Distributary taking out at Gogripur serves the centre of the Karnal Pargana and extends to the northern villages of Panipat. The Goli Distributary taking out above the regulator at Munak irrigates a few villages in the south-west corner of the tahsil. At Munak water is again headed up to give a sufficient supply for the Hansi Branch, and here again percolation has caused some damage.

The old Delhi and Rohtak Branches have been completely abandoned except where their course happens to coincide with a new *rajbaha.* At present the main supplies of canal water for the Panipat tahsil are drawn from the Delhi Branch and the Hansi Branch, which bifurcate at Munak on the borders of the Karnal tahsil. The Delhi Branch, through its main distributaries, the Madlauda, Gohana and Asrana Rajbahas, irrigates the greater part of the Bangar circle. The Joshi minor and Butana Rajbaha of the Hansi Branch serve the villages on the Jind and Rohtak border. The Kabri Branch, taking out of the main canal near Karnal, is brought over the Panipat border and irrigates the extreme north-east of the Bangar circle and the town of Panipat. The small area of canal irrigation in the Khadir circle is supplied by this *rajbaha.*

The distributaries of the Delhi Branch are the most satisfactory in their working. They are controlled from Binjhol,

CHAP. I. A
Physical Aspects.
The Western Jumna Canal.

the head-quarters of the Panipat canal sub-division. The Panipat villages at the tail of the Joshi and Kabri Distributaries, which are in the charge of the Karnal canal sub-division, are loud in their complaints. These distributaries have never worked satisfactorily. The Butana Rajbaha of the Hansi Branch managed from Rohtak gives ample supplies.

The Sirsa Branch opened in 1890 takes out at Indri and strikes due west. No irrigation is done from the main line in the Karnal tahsil. But the Habri Rajbaha, which takes off at Badhera, irrigates a few villages in the Indri Nardak.

The most important factor in the development of the Nardak and Bangar circles is, of course, the opening of the Sirsa Branch which runs from north-east to south-west parallel to and about four miles to the south of the Kaithal-Thanesar road. Two main distributaries, the Sidkan and the Habri Rajbahas, irrigate the country between the Sirsa Canal and the drainage line of the Chautang which was formerly the boundary of the territory belonging to the Bhai of Kaithal. The villages lying to the south-east of the drainage line were without irrigation until the opening of the Nardak Rajbaha in 1898. All these *rajbahas* have been aligned on the most approved principles, and when clear of silt their command of the irrigation area is almost perfect.

The Sirsa Branch irrigation is controlled by the Sub-Divisional Officer at Mundri. The Nardak Rajbaha is under the immediate charge of the Sub-Divisional Officer at Karnal. As at settlement the southern villages of the tahsil bordering on Jind are irrigated from the Mowana Rajbaha of the Hansi Branch which gives excellent supplies.

HILL STREAMS.

The Rakshi.

The Rakshi has a course of little more than 10 miles from the point where it enters the Thanesar tahsil on the east to the town of Ladwa where it joins the original stream of the Chautang. Except to a few of the upper villages its floods are not very important and below Ladwa the channel is deep enough to carry off the water without inundating the surrounding fields. The Kurukshetr cut from the Rakshi to the sacred tanks of Thanesar still exists, but the channel is not kept properly cleared and its floods do harm as often as good.

CHAP. I. A.

Physical Aspects.

The Chautang.

The Chautang has altered its course a good deal since settlement. Shortly after entering the Thanesar tahsil and about three miles from the boundary the original channel has silted up and although one or two subsidiary channels are available the bulk of the water follows a series of depressions on the left bank of the old stream in a course roughly parallel to it until it enters a large lake about three miles north of Ladwa. From here the overflow escapes down the Ladwa-Shahabad road and so into the Rakshi and its original bed at Ladwa. Some of the flood water rejoins the original stream and is partly diverted into the Sarusti by the Sultanpur cut and partly flows down the old bed to its junction with the Rakshi at Ladwa. Near the border of Ambala a few villages benefit by the silt which the Chautang carries in its upper reaches. Below the point where the old channel has silted up, the villages almost without exception have suffered from the diversion of the water into the fields. In many places the present course of the stream is marked by no defined bed and what were formerly rice fields have become mere *jhils* or, owing to overflooding and denudation of the surface soil, are now unfit for cultivation. A scheme for clearing the old bed and restoring the stream to its original channel has been taken up.

The Rakshi Chautang Canal.

The Rakshi and Chautang Canal enters the Karnal tahsil in the north of the Bangar between Indri and the Grand Trunk Road. The Sirsa Branch cuts across the course of both these streams which are syphoned under its bed. Up to 1897-98 the flood water brought across the line of the Sirsa Branch was allowed to inundate the country to the west of the Grand Trunk Road. But since that year, partly by straightening the original drainage channels, and partly by digging new water-courses, the floods have been much reduced. On the whole these works have been advantageous. The system, half drainage and half canal, is supplemented to a certain extent from the Sirsa Branch. Enough water is given for rice sowing in a year of average rainfall, but for the spring harvest only one watering can be supplied. The original streams still continue their course through the Nardak, taking the surplus from the Chautang Canal system and surface drainage. A few large villages in the west of the Karnal tahsil are still dependent on the floods of these natural channels.

The Sarusti.

The Sarusti above Singhaur has no defined bed. But in its lower reaches, where it can overflow its banks, it becomes

CHAP. I. A.

Physical Aspects.

The Sarusti.

useful to the rice lands of certain villages. Its floods, however, rarely extend to any distance, it carries no silt, and its banks are usually high and steep. Near Thanesar they are sufficiently low to enable certain villages to obtain some benefit by the erection of "bands"; these have recently been prohibited in the interests of the Sarusti Canal, the supply of which depends upon the water collected in a large lake, called the Sainsa Jhil, in the neighbourhood of Pehowa.

The Markanda.

The Markanda is distinguished from the rest of the hill streams by its extensive flooding and by the heavy deposits of silt which it leaves in the more favoured villages. Sand is more rarely deposited and as a rule only in the vicinity of the banks. If we are to judge by the experience of the expiring settlement, its natural vagaries have been somewhat overestimated in the past. It is true that in some places the bed of the river is on the ridge of the country and the conditions which make for sudden changes are therefore always present. The question of controlling its waters is mainly an engineering one and is complicated by considerations of the supply of water for the Sarusti Canal. The construction of the road and the railway bridges which span the river within two hundred yards of each other at Shahabad and the training works which run for several miles east and north of that town confine the stream to a definite bed for the first few miles of its course through the tahsil: they have also given it a sharper current for some distance below these works and this has operated to keep it in its existing bed: the Kalsana channel has been closed and the full stream now sets strongly on Kalsana, three miles below the bridges. Some four miles below Kalsana a branch strikes south along the western border of Arjana Khurd, and it was expected at last settlement that this would shortly become the main channel. These expectations were not realised, though the branch still carries a considerable supply of water in the rains. It is quite a subordinate stream and its floods do not spread beyond the borders of the few villages through which it passes where it empties itself into the Sainsa Jhil. East of this branch there are marked indications of the formation of a new channel running south of Arjana Khurd and thence towards Lukhi. The main stream up to 1906 continued in its old channel, joining the Sarusti in the Sainsa Jhil. It will thus be seen that throughout its whole course the Markanda up to 1906 occupied nearly the same position as it did at last settlement. In 1905, however, it shewed signs of an intention to break away along an old depression from Karthala towards the Umla in the Kaithal tahsil.

CHAP. I. A.

Physical Aspects.

The Umla.

The Umla has a course of only about eight miles through the north-western corner of the tahsil, but its floods enter the district from Ambala much higher up at Khokar Mazra. Below this point they combine with the water of the stream which is called at different points in its course the Dhara, Gadla, or Jhoda Nala, and several villages in the direct line of the inundation now suffer from overflooding; even in the winter rains the waters often spread to an extent sufficient to drown the less hardy spring crops. Autumn crops can only be sown with any prospect of success in the higher ground, at least in years of normal or excessive rainfall. The same conditions however may be said to prevail in all villages of these parts which are exposed to the direct action of the Markanda and Umla floods, and they render the question of assessment one of no ordinary difficulty. Further west the Umla runs under the large and populous villages of Thol and Ismailabad, but it floods to any extent only on its left bank, where its sphere of influence is almost conterminous with that of Markanda. The latter stream carries much more silt than the Umla and its floods are consequently held in higher estimation. It is certainly a fact that the Markanda villages are generally more prosperous and the soil is better than in those served by the waters of the Umla.

Sainsa Jhil.

The Umla and Markanda, as they issue from the Thanesar tahsil, affect some villages in the eastern corner of the Naili circle lying north and east of the Thanesar-Pehowa road and its continuation towards Guhla. The Umla eventually joins the Ghaggar and Nardak, while the bulk of the Markanda water finds its way into th Sainsa Jhil where it joins the Sarusti. Roughly speaking the road from Ambala to Pehowa may be said to separate the Umla flooded area on the west from that of the Markanda on the east. But the boundary is constantly overstepped. The action of both streams at this point in their course is identical. Both are depositing silt and improving the villages which they affect. During the four years of settlement, the Markanda has laid down rich deposits in the large village of Bhorak, and is slowly improving a few small estates near Pehowa. But the principal change has been wrought in the villages bordering on the Sainsa Jhil. The Markanda entering the *jhil* from Bibipur deposits all its remaining silt in the low-lying land of the surrounding viilages. At the end of the flood season the water of the *jhil* is drawn off by the Sarusti Canal, leaving stretches of admirable soil on which the finest crops of gram and wheat can be raised.

CHAP. I. A.
Physical Aspects.

The Sarusti Nadi below the Sainsa Jhil.

The natural drainage channel fed by the floods round Pehowa s known as the Sarusti Nadi, though the waters it carries are mainly those of the Markanda. A large tract, known as the Sarusti Naili, depends for its prosperity on the proper management of these floods. It is unnecessary to enter here into the details of the arrangements for the distribution of the water in the *nadi*. They are described in full in paragraph 30 of the Kaithal-Gula Assessment Reports.

The Sarusti Canal.

From the Sainsa Jhil issues the artificial work known as the Sarusti Canal, designed primarily to drain the *jhil* and incidentally to irrigate the higher lands to the south of the Sarusti Nadi. A main outlet has been dug on the south side of the *jhil* and the flood water coming down this outlet is regulated by a sluice constructed on a bridge crossing the Pehowa-Thanesar road. A few miles further down, the Kaithal Branch strikes off southwards and irrigates the high land between the Sirsa Branch of the Western Jumna Canal and the Sarusti Nadi. The main canal continues to run along the Bangar bank just above the Sarusti valley and two *rajbahas* (No. 1 and the tail of Guhana Rajbaha) irrigate the village immediately south of the main line. Rajbaha No. 2 irrigates two villages to the west of the main line.

The main canal was opened in 1896, the Kaithal Branch in 1899, the Guhana Rajbaha in 1902 and the Kaithal minor in 1906. A *rajbaha* (No. 3) taking out at Nawach and commanding about 1,000 acres between Nawach and Kaithal is under consideration.

The canal has achieved a large measure of success. In the rainy season Pehowa is still at times inaccessible, but the floods are carried off by the end of September and the climate is gradually improving.

Ghaggar

The main branch of the Ghaggar, known as Untsarwali Nadi, passes to the east of the cluster of the Karnal villages lying east of Arnauli, and is joined near Bengala by another channel known as the Gadea and by what remains of the Umla floods. The stream has here excavated a channel about 40 feet deep, and flows westwards till the mouth of the Puran is reached at Dhandauta. In high floods some water passes down the Puran, but the main body of water, augmented by the Patiala Nadi at Ratta Khera Lukman, flows on south-west, till it leaves the Karnal district at Urlana. The Puran from Dhandauta to Bubakpur was the original bed of the Ghaggar.

CHAP. I. A. — Physical. Aspects. — Ghaggar.

At Bubakpur it took a turn and passing through Lalpur and Bhattian followed the course of the present main stream. A *band* was erected at Bubakpur to force the water down towards Agaundh, and this Agaundh Branch is now regarded by the people as the Puran Nadi. The Puran has silted up throughout its length, and every year a deposit of sand about 15 feet high is piled at its mouth. The channel was cleared at last settlement and again in 1906. But the result is unsatisfactory. It is of course out of the question to place an ordinary regulator in the Ghaggar. The cost would be prohibitive, even if no objection were made by the Patiala and Bikaner States or by the Canal Department. But it should not be impossible to raise the floods by a stop-dam in the bed of the channel, and regulate their flow by a gate at the mouth of the Puran.

Wells.

The volume of water which enters the district by river, flood, or canal provides a natural sub-surface reservoir which is of the utmost importance to agriculture. Except in the Nardak and the Kaithal Bangar south of the Sirsa Branch the water level is nowhere lower than 25 feet below the surface of the ground. Wells are therefore not difficult or expensive to sink except where the changes in the alignment of the canal have disturbed the sub-surface water table. The Khadir tracts are naturally the most favoured. Water is found at 15 feet and the cost of a masonry well is not more than Rs. 300. In the Bangar of Thanesar, Karnal, and in the similar tracts of the Kaithal tahsil, known as the Pehowa Bangar and the Andarwar, the water level is lower and the cost proportionately higher. The Chachra of Thanesar, the Naili and the Powadh villages beyond the Ghaggar are not less favoured.

Sailab.

The effect of the Jumna floods has been already described as harmful in the *kharif*, though beneficial in the *rabi* harvest. The value of *sailab* land on the banks of the Jumna is little higher than that of ordinary *barani* land in the Khadir.

Canal *sailab.*

Between Radaur in the Thanesar tahsil and Indri the land on either bank of the canal suffers from percolation to a greater or less extent. On the right bank matters have been improved by a system of silting reaches which have raised the level of the ground and made cultivation again possible. The villages which have received most benefit from these operations lie in the Thanesar tahsil. Those on the left bank in the Karnal tahsil have suffered to a much greater extent, and in spite of an extensive system of drainages it has

HAP. I. A.

Physical Aspects.

Canal *sailab*.

been necessary to undertake the large embankments and silting reaches now in course of construction. The state of things is due to the water held up at the Indri regulator to supply the Sirsa Branch which leaves the main canal at this point. But beyond this belt of water-logged soil the effect of percolation is beneficial to crops. The moist area extends further east than in 1886, but since the opening of Sirsa Branch in 1891 has given rise to excessive water-logging, it is doubtful whether the land is as valuable as it was at last settlement. In 1886 the old canal to the south of Indri had just begun to be used as an escape. The land of some villages on its banks was entered at settlement as *sailab*. But these villages have become much drier since settlement and the area of canal *sailab* has been restricted in this direction. Between Indri and Munak the main canal affects a strip of land of varying width along its banks, especially near Munak. The result is on the whole beneficial to the villages in that part of the district with the exception of Munak itself.

Markanda and Umla *sailab*.

The silt deposited by the Markanda is generally of the highest quality, and is the chief factor in the prosperity of the tract known as the Markanda Bet. The silt of the Umla is less beneficial, but in the upper course of that stream the alluvial soil is fertile enough.

The action of the Markanda and Umla in the lower part of their course is somewhat as follows. The floods turn aside from villages which they have raised in past years by deposits of silt to others on a lower level. The first layers of silt are deposited in depressions, where the soil is usually a hard clay covered with dense masses of *panni* and *dab* grass. In a year of good floods six inches or more of the most excellent soil have been superimposed on the original clay bed. Next year the process is repeated, and at the end of three or four years the old depression contains about two feet of the best possible loam. As the floods subside the people sow wheat in the cracks of the soil, securing very fair crops with little expenditure of trouble. With each succeeding flood the silt deposited becomes lighter and more sandy. The land is then regularly ploughed and gram is usually substituted for wheat. If the floods continue to affect the village the soil becomes the good *seoti* of the Bet Markanda. But before this stage is reached the water is often diverted in another direction owing to the rise in levels created by the floods themselves.

CHAP. I. B.

History.

Sargusti and Ghag.ar *sailab*.

Below Pehowa a large area is flooded yearly from the Sarusti Nadi either by spill from the main channel or by artificial cuts. The soil is very stiff, but well flooded produces excellent crops of rice and gram.

Section B. History.

Archæology.

The district undoubtedly contains archæological remains of the highest interest. Unfortunately they lie buried under towns and villages where investigation is difficult and liable to misinterpretation. The environs of Thanesar and Pehowa, and the Polar mound on the Sarusti, the town of Kaithal, the lofty eminence of Amin, and numerous villages in the Nardak would, if explored, fill up many blanks in early Hindu history.

Villages on the edge of the Bangar tract, raised high above the surrounding plain, such as Indri, Churni and Kohand, mark the position of old forts guarding the fords of the Jumna when its course lay further to the west than at present. But the antiquities to be met with are few in number. A detailed account of the more important will be found in the Report of the Punjab Circle of the Archæological Survey of 1888–89 (published in 1891). The chief objects of antiquarian interest are briefly described in Chapter IV of this volume under the sections dealing with the place where each is situated.

One most curious relic deserves separate mention, the old shrine of Sita Mai at the village of that name in the Nardak. It is built in the ordinary form of a Hindu temple. It is of brick; but the curious feature is the elaborate ornamentation which covers the whole shrine, the pattern of which is formed by deep lines in the individual bricks, which seem to have been made before the bricks were burnt, so that the forms they were to take must have been separately fixed for each brick. A large part of the shrine was pulled down and thrown into the tank by some iconoclast Emperor; and though the bricks have been got out and the shrine rebuilt with them yet they have been put together without any regard to the original pattern. The broken finial, part of which has been recovered, is of a curious shape, if it was originally made for a Hindu temple, as it is more suggestive of Buddhist symbolism. The shrine is said to mark the spot where the earth swallowed up Sita in answer to her appeal for a proof of her purity.

Two inscriptions dating from the end of the ninth century A. D. found at Pehowa show that it was included in the dominions of Mahendrapala, king of Kanauj, at that period. The

more important inscription records the erection of a triple temple to Vishnu by a Tomara family, but no traces of ancient temples remain in Pehowa, the modern shrines having been erected within the last century.

CHAP. I. B.

History.

Archæology.

From the dawn of the legendary period to the downfall of the Sikh power, the country round Karnal has been closely connected with the principal movements in Indian history. The great plain, of which the district forms a part, lying as it does at the very door of Hindustan, has been the battlefield of India. In the earliest times interest, both political and religious, centered in the Kurukshetra and the kingdom of Thanesar. With the Moslem invasion the fortunes of the tract became practically identical with those of Delhi, until the rise of the Sikhs freed the country north of Karnal from even nominal allegiance to the Moghals. After the battle of Sirhind, Karnal formed the border land between a crowd of independent Sikh Chieftains on the north, and the officers of the Emperor or the adherents of the Mahrattas on the south. The fall of the Mahratta power marks the first stage in the gradual absorption of the tract by the spread of British dominion, a process completed by the First Sikh War, since when the peace of the tract has only been broken by the local disturbances in the Mutiny.

The legendary period.

The Kurukshetra, the scene of the battle between the Kurus and Pandawas, described in the great Sanskrit epic the Mahabharata, is practically identical with the Nardak tract. The scenes of many of the incidents are still pointed out by the people, and the whole area is full of *tiraths* or holy tanks. It was at the village of Bastali (Vias Asthal) that the sage Vias lived, the legendary author of the Mahabharata, and there that the Ganges flowed under ground into his well to save him the trouble of going to the river to bathe, bringing with it his *lota* and loin-cloth which he had left in the river, to convince him that the water was really Ganges water. The well is still there to shame the sceptic. It was at Gondar that Gotam Rishi caused the spots in the moon and gave Indra his thousand eyes. It was in the Parasir tank at Bahlolpur that the warrior Daryodhan hid till Krishna's jeers brought him unwillingly out to fight, and at the Phalgu tank in Bharal that the Kauravas and Pandawas celebrated the funeral ceremonies of the warriors who had fallen in the war.

Early Hindu History.

The district lying beyond the reach of the Macedonian conqueror is indiscernible in the faint light of early history. Menander, a relative of the Bactrian monarch Eucratides, and king of

CHAP. I. B.

History.

Early Hindu History.

Kabul and Punjab, doubtless exercised sway over the tract, as his occupation of Muthra on the Jumna is an historical fact (B. C. 154). But no traces of Græco-Bactrian rule have ever been discovered in Karnal.

In the first two centuries of the Christian era the tract was probably included in the Empire of the Indo-Scythian dynasty known the Kushans. Safidon on the borders of the district is still pointed out as the site of the great slaughter of snakes mentioned in the Mahabharata. It has been conjectured that this is a reference to the snake totem of the Scythians, and alludes to some incident in the downfall of the Kushan Empire in 200 A. D. If so, the passage in the Mahabharata must be a late interpolation. Indo-Scythian coins have been unearthed at the Polar mound 10 miles north of Kaithal, an ancient *tête du pont* on the south side of the Saruswati river.

From about 326—480 A. D. the tract formed part of the dominions of the Muryan Emperors Chandra Gupta and Asoka. But there is no mention of it as powerful or important, and it may perhaps be conjectured that the Kurukshetra, then, as now, the goal of pilgrimage for the Brahminical Hindu, received little favour from these champions of Buddhism. This empire was reduced to a mere local chieftaincy by the attack of the Huns, and probably for two centuries after 380 A. D. there was no settled rule in the Karnal district. At the end of the sixth century A. D. Thanesar appears as the capital of a Raja, Praba Kara-Vardhana, who had successfully driven back the Hun settlers from the north-west Punjab and the clans of Gurjara.

Raja Harsha of Thanesar and Kanauj.

Under Raja Prabha Kara-Vardhana and his younger son, Harsha, Thanesar seems to have attained paramount rank among the powers of Northern India. The remains of stone temples and palaces found in the old villages on the banks of the Saruswati and Ghaggar attest the importance and wealth of Harsha's dominion. Raja Harsha was possessed of boundless energy : he conceived and to a great extent realised the ideal of United India. His empire and the details of its organisation are described by the Chinese pilgrim Huen Tsang, whose Indian travels extended from 629 to 645 A. D. The seventh century was a period of eclecticism in religion. Buddhism was a powerful but declining force, Hinduism was again claiming its own, and religious traditions no doubt played a considerable part in raising Thanesar to a foremost position in the Northern India.

CHAP. I. B.

History.

Early Muhammada Invasions. Mahmud of Ghazni. Mohammed of Ghore.

During the next three hundred years history is silent, but Thanesar continued a place of great wealth until the storm of Muslim invasion burst upon India. Its wealth and fame attracted Mahmud of Ghazni and in 1014 A. D. he extended his raids to the city, which he sacked. In 1018 A. D. he plundered Mathra and in 1039 his son Sultan Masaud annexed this part of the country, leaving a Governor at Sonepat to administer in his name. The tract was reconquered by the Hindus about eight years later, and a century and a half of comparative peace renewed the prosperity of the country and removed the scars of Mahmud's invasion. But the rising tide of Islam was only temporarily arrested. In 1191 Mohammed Bin San of Ghore advanced against the Rajput King of Delhi, Rai Pitora (Prithivi Raj) who marched to meet him with a large army. The forces met at Naraina, a village on the Nai Nadi in the Nardak 12 miles south of Thanesar and 3 miles from Taraori. The Mussalman king was wounded, and his army utterly routed. This spot was considered specially fortunate by the Hindus and when in the next year the Sultan returned eager to wipe out his disgrace he found Rai Pitora encamped on the same ground. This time the Hindus were utterly defeated and Rai Pitora was taken prisoner and put to death. Delhi was conquered and Muhammadan rule finally established in the Delhi territory.

The slave dynasty.

The slave, Kutab-ud-din Aibek, was left at Delhi as the representative of the Ghore monarch and was made independent under the title of Sultan. Shortly after his death in 1210, Shams-ud-Din Altamsh established himself at Delhi, and in 1216 overthrew a formidable rival in the person of Taj-ud-din Yalduz on the old battlefield of Naraina. Twenty years later, the same neighbourhood was the scene of a bloody victory gained by his son and successor over a confederacy of rebellious nobles. During his absence from Delhi, a rising took place in the interests of his sister Raziya, and she ascended the throne at the end of 1236 with the masculine title of Sultan. She managed the empire with singular ability, but an unfortunate preference for an Abyssinian slave brought about her downfall. Her favourite was put to death and she herself was imprisoned in the fortress of Bhatinda. She regained her liberty by marrying the Governor, and with him advanced on Delhi. The details of the campaign are obscure, but her cause was irretrievably lost when her troops abandoned her after a defeat near Kaithal. The author of the Tabakat-i-Nasiri says she met her end near Kaithal, but if Ibn Batuta is to be trusted, she was murdered by a rustic for the sake of her jewels close to the spot where her grave is still shown, near the Turkman Gate of the present city of Delhi (1240).

CHAP. I. B.

History.

The slave dynasty.

During the troublous years that followed the death of Balban (1287) the district must have suffered occasionally from Moghal raids. But the rule of the Ghiljie dynasty restored order.

The Tughlak dynasty.

Firoz Shah Tughlak is said to have excavated in 1355 the Badshahi Canal which irrigated the country round Jind Dhatrat, Safidon and Hansi. Water rates were charged, and the income was considerable. The canal also conveyed water to the palace and hunting grounds of the monarch in Hissar.

One other incident connects the Tughlak dynasty with the district. In 1390, during the civil war which followed the death of Firoz Shah, Prince Humayun, afterwards Sultan Sikandar Shah, assembled a considerable force at Panipat in support of the cause of his father Muhammad Shah, and plundered the environs of Delhi, which was then held by Abu Bakr Shah. The latter sent a force against him. The latter defeated him at Pasina, now a small village, some seven miles south of Panipat, built on the deserted site of a very large village which is still said by the people to have been destroyed in a great battle. There were 4,000 cavalry engaged on one side alone on this occasion.

Seven years later we read of an action at Guhla (Kutila—Elliot, IV, 32), and in 1398 Ikbal Khan, who was at the time posing as the protector of the puppet King Mahmud, took Panipat after a siege of three days. But the interest of these internecine struggles is lost in the great incident of Timur's invasion.

Timur's Invasion.

Timur Shah marched through the district on his way to Delhi. His route is very fully described in his autobiography, and also in the Zafar Namah: and it is easy to trace it throughout, except between Munak (Akalgarh) and Kaithal. It is almost certain that he crossed the Ghaggar and Sarusti by bridges at Guhla and Polar the remains of which still exist. From Kaithal he marched through Asandh to Tughlakpur, which was said to be inhabited by fire-worshippers. This place is probably Salwan. Thence he marched to Panipat, which he reached on 3rd December 1398 A. D. The people had deserted the town in obedience to orders from Dehli, but he found there 10,000 heavy maunds, (equal to 160,000 standard maunds) of wheat, which he seized. Next day he marched six *kos* and encamped on the banks of "the river of Panipat, which was on the road". This can have been no other than a branch of the Jumna, then flowing under the town in the channel of the Burhi Nadi or old stream. He then marched *viâ* Kanhi Gazin to Palla on the Jumna in the Delhi

CHAP. I. B.

History.

Timur's Invasion.

tahsil. A detachment was sent forward which harried the country up to the walls of Firoz Shah's palace on the Ridge at Delhi. As soon as it rejoined the main army, Timur crossed the Jumna and stormed the Lohdi fort. Ten days later he raised his standard on the battlements of the conquered capital.

The Lodhis.

During the period which followed the departure of the invader there were times in which the central authority was unable to assert itself in the district, and even during the reign of Bahlol Lodhi (1451—1489) his son Nizam Khan, afterwards Sikandar Lodhi, seized Panipat and held it as *jagir* without permission. He made it his head-quarters, and his force there included 1,500 cavalry. Karnal and Panipat were on the high road from Sirhind to Delhi, and from the time of Timur to that of Akbar, or for 150 years, armies were constantly passing through the tract, and battles, more or less important, being fought in it.

In 1525 A.D. Ala-ud-din Alim Khan was sent by Babar with a Mughal army against his nephew Sultan Ibrahim Lodhi and was joined at Indri by Mian Suliman, a *Pirzada* of Panipat, with additional forces. Being defeated near Delhi, he retreated to Panipat, where he tricked his friend Suliman out of three or four lakhs and went on his way. He shortly afterwards rejoined Babar; and next year the Mughal army marched on Delhi. Leaving Ambala, Babar marched *viâ* Shahabad to the Jumna near Alahar in tahsil Thanesar, and thence followed the river bank to Karnal. There he heard that Ala-ud-din, whom he had sent on towards Delhi, had been defeated by Ibrahim, and that the latter had advanced to Ganaur. Mounting his horse at the Gharaunda sarai, Babar led his army to Panipat, which he selected for the battlefield, as the town would cover one of his flanks. He arrayed his army about two *kos* to the east of the city, with his right flank resting on the walls. Ibrahim Lodhi took up a position at the same distance to the south-west of the city and for a week nothing more than skirmishes occurred. At length, on 21st April 1526 A.D., Ibrahim Lodhi's forces advanced to the attack, were utterly routed, and were pursued by Babar's army to Delhi, while the conqueror remained encamped for a week to the west of Panipat. He considered the spot a fortunate one, treated the people well, and made Sultan Muhammad Angluli, who had assisted him with troops, Governor of Panipat.

In this battle Ibrahim Lodhi was slain, and was buried between the tahsil and the city of Panipat. It was one of Sher Shah's dying regrets that he had never fulfilled his intention of

CHAP. I. B.

History.

The Lodhis.

erecting a tomb to the fallen monarch. After the battle Babar built a garden with a mosque and tank; and some years later, when Humayun defeated Salem Shah some four miles north of Panipat, he added a masonry platform and called it Chabutra Fateh Mubarik. These buildings and the garden still exist under the name of Kabul or Kabil Bagh.* The building bears an inscription containing the words "Binai Rabi-ul-Awwal 934 Hij." In 1529 the Mandhar Rajputs of the Nardak rebelled under their Chief Mohan, and defeated the royal troops. Babar then burnt the rebel villages. Later on, during the struggle which led to the expulsion of Humayun, Fateh Khan, Jat, rebelled and laid the country waste as far south as Panipat.

The Mughals.

When Humayun died at Delhi, the young Akbar, who was then in the Punjab, marched at once under the guardianship of Bairam Khan to meet the Afghan army under the great Hindu general, Himu, who was advancing from Delhi. Passing through Thanesar, he arrayed his army 10 miles north of Karnal, and then marched to Panipat, two *kos* to the west of which city Himu was encamped. After a week's skirmishing, Akbar sent a detachment round the city to take Himu in the rear, and advanced to the attack. The result was the death of Himu and the total route of the Afghans. Next day Akbar marched to Delhi, which he entered without opposition. The battle took place on 5th November 1556 and is fully described by the Emperor Jahangir and by Ferishta.

During the early years of the Mughal dynasty the Empire was so firmly established at Delhi that the district can hardly be said to have possessed a separate history. In 1573 the rebel Ibrahim Hussain Mirza, defeated by Akbar, in Gujrat, moved northwards with the object of creating disturbances in Upper India, and the surrounding country. He passed through the district on the way to Panipat and plundered Panipat and Karnal. And again in 1606, Prince Khusro revolted and passed up this way from Delhi, plundering and pillaging as he went. When he reached Panipat he was joined by Abdul Rahim, and Dilawar Ali Khan, who was at Panipat with an Imperial force, retreated before them to Lahore. Jahangir himself shortly followed in pursuit, and moralised upon the success which Panipat had always brought to his family. He then ordered the Friday devotion to be always held in the mosque of Kabul Bagh which Babar had built, and

*Some say that Babar said the spot was *Kabil Bagh*, fit for a garden; others, that he planned the garden on the pattern customary in Kabul. Babar had a wife called Kabuli Begam, and Sir E. Colebrooke says her name may possibly be derived from the name of a species of myrobalan (J. R. A. S., XIII, 279).

this custom was continued till the Mahrattas occupied the mosque in the last battle of Panipat. For more than two centuries the country enjoyed peace under the Mughals, the canal was worked, the road was put in repairs, *sarais* were erected at every stage, and a *minar* and a well made at every *kos* for the use of travellers. The *minars* (brick pillars, 24 feet high) and wells still exist; but the *sarais* of Sambhalka and Gharaunda are in ruin, while that of Karnal has disappeared.

Towards the end of the 17th century the Delhi Empire was fast falling to decay, and the Sikhs rising to power. In 1709 Banda Bairagi, sometime the chosen disciple of Guru Gobind, raised his standard in these parts, and, collecting an army of Sikhs, occupied the whole of the country west of the Jumna. He laid the whole neighbourhood waste and especially the neighbourhood of Karnal, where he killed the Faujdar and massacred the inhabitants. He was defeated by Bahadur Shah near Sadhaura in 1710, but escaped to found Gurdaspur. In 1729 a charge on Pargana Karnal of five lakhs of *dam* was granted to Dilawar Ali Khan Aurangabadi whose ancestors had formerly held the *pargana* in *jagir*.

In 1738 Nadir Shah, enraged at not being recognised by the Delhi Court, invaded India. On 8th January 1739 he reached Sirhind, where he learned that Muhammad Shah with an enormous army occupied a strongly fortified camp at Karnal. Nadir Shah marched on to Taraori, on which, it being a fortified town, he had to turn his guns before it would open its gates to him. Here he learned from some prisoners he had made that the approach to Karnal from the direction of Taraori was through dense jungle and exceedingly difficult; and that Muhammad Shah had no room to move in, being encamped in a small plain which was hardly sufficient for his camp, and surrounded on three sides by thick woods. He accordingly resolved to take the enemy in flank from the south-east. On the 15th January he left Taraori, and marching round by the banks of the Jumna to the back of the city, advanced to a position close to the Delhi camp; meanwhile he sent Prince Nasr-Ullah Mirza with a considerable force to a spot north of the canal and close to Karnal. All this time Muhammad Shah was not even aware that Nadir Shah was in the neighbourhood. Just at this time a detachment which had been sent to oppose Saadat Khan, the Viceroy of Oudh, who was marching from Panipat with re-inforcements, and missing the enemy had followed him up to Karnal, came to close quarters with him. Nadir Shah and Prince Nasr-Ullah at once marched to the support of their detachment, which was the first intimation

CHAP. I. B.
History.
The Mughals.

the Imperial army had of their presence. The engagement which followed was not decisive. But the army of Muhammad Shah, which had already been encamped for three months at Karnal and had suffered greatly from want of supplies, was now cut off from the open country in the rear, and food became so scarce that a seer of flour could not be bought for four rupees. Thus Muhammad Shah was starved into submission, and on the 13th of February yielded to the indvader, who led him in his train to Delhi. The operations are very minutely described in the Nadir Namah. In 1748 Ahmad Shah was met at Panipat by the royal paraphernalia and the news of the death of Muhammad Shah, and there and then formally assumed the royal titles. In 1756 the Wazir Ghazi-ul-din brought Alamgir II, a virtual prisoner to Panipat, and thus caused a mutiny in the army, the Wazir being dragged through the streets of the city. A horrible massacre followed the outbreak.

From this time to the establishment of English rule, a time of horror followed which is still vividly remembered by the people, and was fittingly ushered in by the greatest of all the battles of Panipat. In the rainy season of 1760, Sedasheo, the Mahrata Bhao, marched upon Kunjpura, an Afghan town close to Karnal, which was then strongly fortified and at which 20,000 Afghan troops were then encamped. He put the whole of them to the sword, and pillaged the country round. Ahmad Shah, who was in the Doab, was unable to cross the Jumna in time to prevent this disaster; but at length he forded the river near Bagpat and advanced against the enemy, who, encamped at the time at the village of Pasina Kalan, where the battle of 1390 A. D. had been fought, retreated to Panipat. There the Mahrattas strongly fortified themselves; and the line of their entrenchments can still be traced on the plain between Risalu and Panipat. The Durranis encamped close in front of them on the plains north of Risalu and Ujah: and for five months the two armies, numbering more than 400,000 souls, remained engaged in fruitless negotiations and constant skirmishes. The accounts of the horrors of that time given by the people are very striking. The whole country round was devastated by the opposing hordes, and the inhabitants fled, insomuch that the people say that, besides the town, only the three villages of Phurlak, Daha, and Bala were inhabited at the time of the actual battle. The Durrani army had free access to their camp on all sides, while they gradually confined the Mahrattas more and more

to their entrenchments. The latter had long ago consumed all the provisions obtainable at Panipat; at length supplies wholly failed; and on the January 1761 the Bhao advanced to action. The battle is fully described by several authors. The Mahrattas were utterly routed and many of them were driven into the town of Panipat, whence next morning the conqueror brought them out, distributed the women and children, and massacred the men in cold blood. The fugitives were followed all over the country, and killed wherever they were overtaken. It is said that 200,000 Mahrattas were slain in this battle. The people still point out the spot where the Bhao stood to watch the fight marked by an old mango tree which has only lately disappeared. They say that the Mahrattas' General of artillery, one Bahram Ghori, had been insulted by the young Bhao, and in revenge put no balls in his guns, otherwise the Giljas, as they call the Ghilzai followers of Ahmad Shah, would certainly have been beaten; and that the Mahratta fugitives were so utterly demoralised that the Jat women beat them with baskets, made them get off their horses and plundered them royally.

No sooner had the Mahrattas temporarily disappeared than the Sikhs appeared on the scene of action. In 1763 they defeated Zain Khan, the Durrani Governor of Sirhind, and took possession of the whole of Sirhind as far south as Panipat. "Tradition still describes how the Sikhs dispersed as soon as the battle was won; and how, riding night and day, each horseman hurled his belt, his scabbard, his articles of dress, his accoutrements, till he was almost naked, into successive villages to mark them as his". Raja Gajpat Singh on this occasion seized Jind, Safidon, Panipat and Karnal, though he was not yet strong enough to hold them; but in 1772 he was confirmed in his possession up to within a few miles north of Panipat and west of Karnal, as a tributary of the Delhi Emperor. At the same time Gurdit Singh seized Ladwa and Shamgarh up to within a few miles north of Karnal. A considerable part of the Indri Pargana fell to the share of Sardars Bhanga Singh and Bhag Singh of Thanesar, and the chiefs of Kaithal and Ladwa, while part was conquered by leaders of little note belonging to the Jamerayan section of the Dallewalia confederacy. The Nawab of Kunjpura managed with difficulty to keep the whole of the revenues of a considerable number of estates, in others he was forced to give a share to the Shamgarh Chief and the Sikhs of Churni.

CHAP. I. B. — History

Recalled by the Sikh conquests Ahmad Shah appeared for the last time in Hindustan, in 1767, and, defeating the Sikhs in several battles, marched as far as Ludhiana; but as soon as he disappeared, the Sikhs again resumed their hold of the country. In 1774 Rahimdad Khan, Governor of Hansi, attacked Jind but was defeated with heavy loss, while Gajpat Singh again seized Karnal. Shortly afterwards Najaf Khan, the Imperial Wazir, marched in person to restore his authority, and by a treaty then concluded between the Rajas and the Emperor, the Sikhs relinquished their conquests in Karnal and its neighbourhood, excepting seven villages which Gajpat Singh was allowed to keep, and which probably included Shera, Majra Jatan, Dharmgarh Bal Jatan, and Bala.

But the treaty was not observed; and in 1779 a last attempt was made by the Delhi Court to recover its lost territory. In November of that year Prince Farkhanda Bakht and Nawab Majid-ud-daulah marched out at the head of a large army, 20,000 strong, and met some of the minor Sikhs at Karnal. He made terms with these chieftains, who were jealous of the growing power of Patiala; and the combined forces marched upon that State. While negotiations were in progress, reinforcements advanced from Lahore, the Karnal contingent deserted, bribery was resorted to, and the Imperialists retired precipitately to Panipat. About this time Dhara Rao held the southern portion of the district on the part of the Mahrattas, and was temporarily on good terms with the petty Sikh chiefs north of Karnal. In 1785 he marched, at the invitation of the Phulkian Chiefs, against Kaithal and Ambala, and after some successes, and after exacting the stipulated tribute, withdrew to his head-quarters at Karnal. In 1786 Raja Gajpat Singh of Jhind died, and was succeeded by his son Raja Bhag Singh. In 1787 Begam Samru was operating against the Sikhs at Panipat, when recalled to the capital by Ghulam Kadir's attack upon Delhi. In 1788 Amba Rao united with Zabita Khan's son to make an incursion and was again joined by minor Sikhs at Karnal, and levied a contribution on Kaithal.

In 1789 Scindia, having killed Ghulam Kadir and reinstated Shah Alam, marched from Delhi to Thanesar and thence to Patiala, restored order more or less in the country west of the Jumna, and brought the Patiala Diwan back with him as far as Karnal as a hostage. In 1794 a large Mahratta force under

CHAP. I. B
History

Anta Rao crossed the Jumna. Jind and Kaithal tendered their homage; but the Patiala troops surprised the army in a night attack, and Anta Rao retired to Karnal. In 1795 the Mahrattas once again marched north, and defeating Raja Bhag Singh to Karnal finally wrested that city from him and made it over to George Thomas, who took part in the fight. He had also obtained the *jagir* of Jhajjar, and making himself master of Hissar harried the neighbouring Sikh territories; meanwhile Sardar Gurdit Singh, of Ladwa, obtained possession of Karnal. In 1798 Begam Samru was stationed with her forces at Panipat to protect the western frontier during the struggle with Jaipur. In 1799 Scindia sent General Perron, to whom the *pargana* of Panipat had been granted, to bring the Sikhs to order. He recruited at Karnal, where the Nawab of Kunjpura joined him; but matters were settled amicably, and the army returned *viâ* Panipat, where they were joined by Begam Samru, and took advantage of the opportunity to chastise Naultha and other large villages for not having paid their revenue to Perron's collector. In 1801 Thomas made a foray through Karnal and Panipat, and then retreated to Hansi. The Sikhs asked the Mahrattas for help against him, and Scindia, on the Sikhs promising to become his subsidiaries and pay him five lakhs of rupees, sent General Perron against him. In the battle that followed Thomas lost all his conquests, retired to British territory and shortly afterwards died. Safidon and Dhatrat were then made over again to Jind by the Mahrattas. The people of Bhagal in the north of Kaithal still tell how Thomas carried off hostages from their town and only released them when ransomed by the Bhai of Kaithal.

On 11th September 1803, Lord Lake defeated the Mahrattas at the battle of Delhi; and on the 30th December, Daulat Rao Scindia, by the treaty of Sirji Anjangam, ceded his territories in the north of India to the allies: while the Partition Treaty of Poona, dated five months later, gave the provinces about Delhi, from that time known as the conquered provinces, to the English. The chiefs of Ladwa and Thanesar with five thousand Sikhs fought against us at the battle of Delhi. Immediately after the battle Begam Samru made her submission to General Lake; and Bhag Singh of Jind and Lal Singh of Kaithal were hardly less prompt. Their advances were favourably received, and in January 1805 they joined their forces with ours. The Sikh Chiefs, who had actually fought against us at Delhi, continued to display

CHAP. I. B.

History.

active hostility, till they were finally routed by Colonel Burn at the end of 1804. In March 1805 an amnesty was proclaimed to all the Sikhs on condition of peaceable behaviour; but Gurdit Singh of Ladwa was expressly excluded from this amnesty, and in April of the same year the English force marched upon his fort of Karnal and captured it.*

British rule.

So ended that terrible time called by the people *Singhashahi ka-Ram Raula* or *Bhaogardi*, the "Sikh hurly-burly," or the "Mahratta anarchy." Its horrors still live vividly in the memory of the villagers. The Sikhs never really established their grasp over the country south of Panipat; and they held what they did possess only as feudatories of the Mahrattas. But the whole period was a constant contest between the two powers; and the tract formed a sort of no-man's land between territories, and coveted by both but protected by neither, was practically the prey of the strongest and most audacious freebooter of the day whether hailing from the Punjab or the Deccan, for nobody cared to spare for to-morrow what he might only possess for to-day. Even as early as 1760, Nadir Shah had to approach Delhi by way of the Doab, as owing to the constant passage to and fro of the Mahratta troops, the country was so desolated that supplies were unprocurable; and 40 years later, when we took over the district, it was estimated that "more than four-fifths was overrun by forest, and its inhabitants either removed or exterminated." The arrangement of the villages in groups or small hamlets, sprung from, and still holding sub-feudal relations with the large parent village, made the concentration of the population in a few strongholds natural and easy; and out of 221 villages in Pargana Karnal the inhabitants of 178 had been wholly driven from their homes and fields. The royal canal had long dried up, and thick forest had taken the place of cultivation, and afforded shelter to thieves, vagabonds, and beasts of prey. In 1827 Mr. Archer remarked that "only a very few years had elapsed since this part of the country was inhabited wholly by wild beasts." Deserted sites all along the old main road still tell how even the strongest villagers had to abandon the spot where their fathers had lived for centuries, and make to themselves new homes or sites less patent to the eyes of marauding bands. Every village was protected by brick forts and surrounded by a deep ditch and a wall of some sort;

*According to the schedule attached to the Treaty of Sirji Anjangam, the tract under the Mahrattas was held as follows:—Karnal, annual value Rs. 14,000, by Seth Singh, Sikh; Barsat, Faridpur, Rs. 35,000, by General Perron; Panipat, Rs. 99,478, by Babaji Scindia; Ganaur, Rs. 6,932, Sonepat, Rs. 39,348, and Gohana, Rs. 1,16,329, by Colonels John and Geo. Hasting. The whole list is extraordinarily incorrect.

CHAP. I. B
History.
British rule.

every group of villages was at deadly enmity with its neighbours; and there are several instances where two contiguous villages in memory of a blood feud dating from the Mahratta times, refuse to this day to drink each other's water, though otherwise on friendly terms. In 1820 the Civil Commissioner reported and the Governor-General endorsed his conclusion, that "the native administration took no concern in criminal justice or Police, any further than as its interference in those respects might be made subservient to its immediate pecuniary gains; and that the village communities, while they held the property of their own society sacred, habitually committed depredations and aggression on other villages or on travellers and generally shared the plunder they obtained with the ruling power or principal local authority. Revenue administration there was none; the cultivator followed the plough with a sword in his hand; the Collector came at the head of a regiment; and if he fared well, another soon followed him to pick up the crumbs."

Lord Wellesley returned to England in August 1805 and Lord Cornwallis was sent out expressly to reverse his policy. The leading feature of the new programme was the withdrawal from all the recently acquired territory west of the Jumna. And as that territory had to be disposed of, it was natural that the petty chieftains who had done us service in the late struggle, even if only by abstaining from or relinquishing opposition to us should be rewarded. The whole country was therefore parcelled out between them and others. In the words of General Sir David Ochterlony who superintended the whole arrangements—

"In the acts of that day I see many of most lavish and impolitic profusion, but not one in which I can recognise true British liberality and generosity. The fact is notorious that the policy of those times considered the most of our acquisitions beyond the Jumna as incumbrances; and the Governor-General's Agent's only embarrassment was, how to dispose of what Government had declared they could not or would not keep, in the manner least likely to be ultimately injurious to our vital interests."

With this object in view he formed a belt of *jagirdars* round our ultra-Jumna possessions from Karnal to Agra.

The sovereign powers of the Rajas of Jind, Kaithal, Ladwa, Thanesar and Shamgarh and of the Nawab of Kunjpura were confirmed and they were continued in the lands held by them under treaty from the Mahrattas, except that Ladwa was deprived of Karnal, as already mentioned. Besides this Jind was granted Gohana, and the five villages of Shera, Majra Jatan, Bal-

CHAP. I. B.

History.

jatan, Bala, and Dharmgarh or Murana: and he and the Raja of Kaithal had the *pargana* of Barsat-Faridpur, made over to them jointly. The villages of Uncha Siwana Rainpur, Ranwar, Kambohpura, Kailas with Mangalpur and Pipalwali, were made over to the Nawab of Kunjpura. The Mandals, who held large *jagirs* in Muzaffarnagar, were induced to exchange them for so much of Pargana Karnal as was left unallotted, the grant being made in perpetuity subject to the payment of a fixed quit rent. Begam Samru received considerable grants, including some villages of the tract, in addition to her original fief of Sardhana, and considerable grants were made to people who had done good service, and notably to Mirza Ashraf Beg and Mir Rustam Ali. The *agirs* which had been given in 1905-06 were declared grants for life only and were taken under our police supervision. They were gradually resumed on the death of the holders. In 1809 the Jind Raja endeavoured to obtain from Government his old *pargana* of Karnal, but the *pargana* had already been allotted, and the endeavour was unsuccessful.

The policy which bade us abstain from interference west of the Jumna did not long stand the test of actual practice. In 1806 Ranjit Singh crossed the Sutlej with his army and marched to Thanesar, and it soon became apparent that either he or we must be master. The events and negotiations that followed, how the Sikh army marched about within 20 miles of our lines at Karnal, and how we were compelled to insist upon Ranjit Singh's withdrawal beyond the Sutlej, are told in most interesting detail by Sir Lepel Griffin in his Punjab Rajas. The treaty of Lahore, dated 25th April 1809, and the proclamation of the 3rd of May following, finally included the country to the west of the Jumna in our Indian Empire. This proclamation beginning with the quaint wording that it was "clearer than the sun and better proved than the existence of yesterday" that the British action was prompted by the Chiefs themselves, is given in full in Appendix 10 of Cunningham's History, and at page 122 of the Punjab Rajas. It includes seven short articles only, of which Nos. 1 to 5 are important; Nos. 1 to 3 limited Ranjit Singh's power and declared the *cis*-Sutlej Chiefs sole owners of their possessions free of money tribute to the British; while Nos. 4 and 5 required them in return on their side to furnish supplies for the army, and to assist the British by arms against enemies from any quarter as occasion might hereafter arise.

It is impossible to read the history of these transactions without seeing that the Government were in reality taking a

CHAP. I. B. History.

most important step almost in the dark. Instead of finding the Ambala territory under the control of a few Central States, they soon realised the they had given it over for ever to hordes of adventurers with no powers of cohesion, who aimed only at mutual aggression, and whose sole idea of Government was to grind down the people of the country to the utmost limit of oppression. The first point was easily settled by a sharp reminder given in a supplementary proclamation of 1811, that every man would have to be content with what he held in 1809, and that the British Government would tolerate no fighting among themselves. It was, however, found that as a fact the so-called *cis*-Sutlej Sovereign States were represented, as far as Ambala was concerned, by some thirty petty rulers with estates ranging from 20 to over 100 villages, and by a host of small fraternities comprising many hundreds of the rank and file among the followers of the original conquerors, who had been quartered over the country with separate villages for their maintenance and who were all alike now vested with authority as independent rulers by the vague terms of the proclamation of 1809. Published works have nowhere very clearly recognised how sorely the Government repented of its mistake, but there seems no doubt as to the facts ; and it is not to be wondered at that Sir David Ochterlony should have privately admitted to the Governor-General in 1818 that the proclamation of 1809 had been based on an erroneous idea.

From 1809 to 1847 persistent efforts were made to enforce good government through the Political Agency at Ambala among the endless semi-independent States. The records of the time bear witness to the hopeless nature of the undertaking. They teem with references to the difficult enquiries necessitated by the frequent disputes among the principalities, by their preposterous attempts to evade control, and by acts of extortion and violent crime in their dealings with the villages. Year by year Government was driven in self-defence to tighten the reins, and every opportunity was taken to strengthen its hold on the country by enforcing its claims to lapse by escheat on the death without lineal heirs of the possessors of 1809 on their descendants. It was thus that the British Districts of Ambala and Thanesar gradually grew up, each successive lapse being made the occasion for regular settlements of the village revenues and the introduction of direct British rule. At the same time Government scrupulously observed the engagements of 1809, and with the exception of the prohibition of

CHAP. I. B.

History.

internal war by the proclamation of 1811 the powers and privileges of the Chiefs remained untouched. Each chief, great and small alike, had within his own territory absolute civil, criminal and fiscal jurisdiction, subject only to the general authority of the Agent to the Governor-General. No tribute was taken from them, and, though they were required, in the case of war, to aid the Government, yet no special contingent was fixed. The right to escheats was the sole return for its protection which the Government demanded. Throughout a long period of peace during which, while north of the Sutlej every vestige of independence vanished before the encroachments of Ranjit Singh, the *cis*-Sutlej Chiefs enjoyed a complete immunity from invasion, and retained undiminished rights of sovereignty. After 36 years, with the exception of a few States which had lapsed from failure of heirs, each Chief still found himself the ruler of the territory which he or his fathers had held at the time when they passed under British protection.

In 1846-47 a fresh step had to be taken owing to passive obstruction or open hostility on the part of the Chiefs when called on to assist the Government with supplies and men during its campaign against the Trans-Sutlej Sikhs in 1845. No occasion had occurred for testing their gratitude for the benefits secured to them, until the declaration of the first Sikh War and the Sutlej Campaign of 1845. But when tested, it miserably failed. Throughout the war, few of the Chiefs displayed their loyalty more conspicously than by abstaining from open rebellion. Their previous conduct had not been such as to encourage the British Government in its policy towards them. Almost without exception they had abused its indulgence and made the security of its protection a means of extortion and excess of every kind. There was nothing whatever to admire in the internal management or administration of their estates as was amply testified by the universal satisfaction with which the peasants of these estates which, from time to time, had lapsed, came under direct British management. It has been well said that " independence, for these Sikh Chiefs, had no nobler significance than the right to do evil without restraint and to oppress the people who were so unfortunate as to be their subjects. "*

Having thus already lost the confidence of the Government the Sikh Chiefs in the Sutlej Campaign forfeited all claim to consideration. It was seen that the time had arrived for the

†Griffin, : " Rajas of the Punjab ", page 218.

CHAP. I. B.

History.

introduction of sweeping measures of reform ; and the Government unhesitatingly resolved upon a reduction of their privileges. Several important measures were at once adopted. The police jurisdiction of most of the Chiefs was abolished, the existing system being most unfavourable to the detection and punishment of crime. All transit and customs duties were also abolished, and, thirdly, a commutation was accepted for the personal service of the Chief and his contingent. The despatch of the Governor-General, embodying this resolution, was dated November 7th, 1846. The only States exempted were Patiala, Jind, Nabha,* Faridkot, Maler Kotla, Chhachhrauli (Kalsia), Raikot, Buria, and Mamdot. With these exceptions, the police jurisdiction was made over to European officers. At the same time the more serious offenders in the campaign of 1845 were visited with signal punishment. Their possessions were confiscated to Government and in some cases they were themselves removed as prisoners from the Province. One hundred and seventeen villages were in this way added to the British district in Pipli by confiscation from the Raja of Ladwa. As regards minor Chiefs, similar severe measures were considered unnecessary, though the majority " had not shown their loyalty in 1845 in any more conspicuous way than in not joining the enemy, " and for a short time an attempt was made to leave them the unrestricted right of collecting the revenue of their villages in kind as hitherto. It soon, however, became apparent that the Chiefs, deprived of their police jurisdiction, were unable to collect their revenue. A proposal was therefore made for a regular settlement of the land revenue. But before final orders had been passed upon this point, the second Sikh campaign commenced. It ended in the annexation of the Punjab, and in the removal of the political reasons which had hitherto complicated the question of the amount of power to be left to the *cis*-Sutlej Chiefs. In June 1849, it was accordingly declared that, with the exception of the States already mentioned, all the chiefs should " cease to hold sovereign powers, should lose all criminal, civil and fiscal jurisdiction, and should be considered as no more than ordinary subjects of the British Government in the possession of certain exceptional privileges ".† The chiefs of Kunjpura, Thanesar and Shamgarh were thus reduced to the position of simple *jagirdars*. The revenues were still to be theirs, but were to be assessed by

*Nabha was exceptionally treated, one-quarter of its territory being confiscated.

†Griffin's " Rajas of Punjab, " page 217.

CHAP. I. B. History.

British officers and under British rules. The final step necessitated by the march of events was taken in 1852 when the revenue settlement begun for British villages in 1847 was extended to the villages of the Chiefs. Thereafter the Chiefs have ceased to retain any relics of their former power except that they are still permitted to collect direct from their villages the cash assessment of revenue as fixed at settlement. They have sunk to the position of *jagirdars*, but as such retain a right to the revenue assigned to them in perpetuity subject only to lapse on failure of heirs who are unable to trace descent as collaterals from the original holders of 1809 or such other year as may have been determined under the special circumstances of the family as the basis from which status shall be derived.

Kaithal, Ladaw, Thanesar and Kunjpura.

The history of the Kaithal, Ladwa, Thanesar and Kunjpura States before their inclusion in British territory lies somewhat outside the main current of events leading to the break-up of the Delhi Empire. The principal features in the founding and administration of these petty principalities may be briefly noticed :—

Early history of Kaithal.

The district of Kaithal in the time of Muhammad Shah was a *pargana* consisting of 13 *tappas*. In A. D. 1733, this *pargana* was held from the Delhi Government in *jagir* or farm by one Kamr-ul-din Khan, a Biloch by tribe, who held some important office in the Government ; this man was slain in the massacre at Delhi by Nadir Shah in A. D. 1738. Azim-ulla Khan, of the same family, seeing the declining state of the Government, endeavoured to shake off his allegiance and assume independence. He gave out the different villages in farm and returned with a force to collect his revenues. Ikhtiar Khan, an Afghan, was one of the principal *zamindars* with whom he engaged, and who sometimes paid but as frequently resisted and appropriated the revenues. Matters continued in this state till A. D. 1751. Inayat Khan, Afghan, a *zamindar* of some influence, persuaded the people to join him in resisting the demands of the Bilochis, raised a considerable force for the purpose, and enjoyed the revenues himself. Matters continued in this state till 1755,—the successes of the Bilochis and Afghans fluctuating, sometimes one, sometimes the other being successful as each could collect followers,—when in the year last mentioned the Bilochis sent a Saiyad (name not known) who encamped at Habri and sent for the Afghan Chief : Inayat Khan, suspecting treachery, sent his brother Ghulam Bhik in his stead, and him the Saiyad put to death. Inayat Khan fled, and the Saiyad obtained easy possession of Kaithal, where he remained three months collecting revenue ; but directly his

CHAP. I. B.

History.

back was turned, Inayat Khan again stepped in and assumed possession.

Early history of Kaithal.

In A. D. 1756 Tahawwur Khan, brother of Kamr-ul-din, came with a force to claim his late brother's *jagir*. He was opposed by Inayat Khan, who was beaten and fled, but, a short time after during the same year, having collected a force, the latter made a night attack upon the city of Kaithal and obtained entrance at the Siwan Gate : a fight ensued in the streets of the town, in which Tahawwur Khan's brother-in-law, who commanded, was killed and his army dispersed. The Afghans or attacking force consisted of only 500 men, while that of the defeated Bilochis amounted to 1,000. Thus ended the Biloch possession ; rule it cannot be called. They were never able to make head again, and Inayat Khan, a *zamindar*, was left in undisturbed possession, collecting the revenues and paying tribute to no one. He was not, however, destined to a long or prosperous rule, for he fell a victim to treachery in A. D. 1760. He had long been at enmity with one Azim Khan Mandal, of Samana, who had taken possession of Bhorak, a village in the *pargana* and five miles north of Pehoa. The Mandal invited him to the Khoram Mela on pretence of making up the quarrel, and there murdered him ; but had soon to repent his treachery, for Bhik Bakhsh and Niamat Khan, brothers of his victim, collected a force, marched against Bhorak, took it, and put the Mandal to death. The two brothers continued in possession, it cannot be called Government, of Kaithal till A. D. 1767 ; when Bhai Desu Singh, advancing from Bhochoki, encamped at Kutana, where he collected further force and munitions of war, and then marched against Kaithal, which succumbed after but a weak resistance ; and thus commenced the Sikh rule.

Bhik Bakhsh died in exile, but his brother Niamat Khan was treated liberally by the conqueror, who conferred upon him several villages in *jagir*,—one of which, *viz.*, Ujana, his descendants retain to the present day, but without any proprietary right in the village. Thus in the short space of 29 years, *viz.*, from 1738 to 1767, Kaithal had changed rulers no less than four times.

The Sikh Bhais of Kaithal.

The district of Kaithal, as it was constituted when it passed by escheat into the hands of the British Government, was acquired by Bhai Desu Singh, the 4th son of Bhai Gurbakhsh Singh, himself a descendant from a Rajput *zamindar* of Jaisalmer. He inherited a few villages in Kularan, and from this small beginning extended his possessions first by the capture of Kaithal in *Sambat* 1824 (A. D. 1767), and then by the conquest of Chika and Pehoa.

CHAP. I. B.
History.
The Sikh Bhais of Kaithal.

Bhai Desu Singh appears to have been a man of debauched character, and few works of art are attributed to him. He built the original fort of Kaithal and several smaller forts about the district, and brought a water-course from Mangana to Kaithal, and numerous *kachcha* dams along the Saruswati river. He had four wives, *viz.*, Rupkaur, mother of Bahal Singh ; Ramkaur, mother of Khushhal Singh ; Mai Bholi, no issue ; Mai Bhagan, mother of Lal Singh. Jugta Singh Mahal became his agent and adviser. He died in 1835-36 *Sambat*, having ruled 11 or 12 years, a rule which was not very oppressive, or perhaps time has softened off the edges. He amassed about 10 *lakhs* of rupees, and the knowledge of this is said so to have excited the envy of the Rajas of Jind and Patiala that they caused the agents of the Delhi ruler to entice the Bhai to Delhi under pretence of having a *jagir* conferred upon him. On his arrival at the seat of Government, Desu Singh was confined, and only released on the promise of paying 8 *lakhs* of rupees, 6 of which he paid and gave his son Lal Singh as security for the remainder.

Of his three sons, Khushhal Singh, having died in childhood, is never mentioned. Bahal Singh succeeded to the rule, his elder brother being under restraint at Delhi ; but Lal Singh's mother having obtained his release on payment of Rs. 40,000, he shortly returned and assumed the Government, driving his brother, who strongly opposed him, to Kularan. Thence Bahal Singh acquired Budlada, but was immediately put to death by hired assassins instigated by his worthy brother. Lal Singh resided chiefly at Kaithal. He had four wives, *viz.*, Saddakaur, no issue ; Rattankaur, no issue ; Sahibkaur, mother of Partab Singh and Ude Singh ; Mankaur, no issue. He drank deep, but appears to have been held in some respect by the lesser Chiefs, who submitted frequently to his arbitration. He did good service to Perron in defeating George Thomas, and was rewarded in consequence by the gift of Pargana Sular on payment of a *nazarana* of Rs. 60,000, little better than one year's revenue. His services were acknowledged by Lord Lake and rewarded by a handsome *jagir*, Gohana, in which, however, he had only a life interest. He added to the fort of Kaithal, indeed may almost be said to have built it, for it was nothing but a mud building before. Its picturesque towers are now visible for a long distance. He ruled for 33 years, dying in *Sambat* 1875 at the age of 49. He left behind him the character of a tyrant. On his death, his sons being 3 and 4 years old, respectively, the Government was carried on in the name of the eldest Partab Singh, under the regency of the mother ; but the boy only lived to the age of 12 years, and died of small-pox in

CHAP. I. B.
History.
The Sikh Bhais of Kaithal.

Sambat 1880. Bhai Ude Singh, still a boy, succeeded under the regency of the mother, who even in after life had great influence over him ; indeed she was more the ruler than he was, and to this perhaps may be attributed his being at variance with the neighbouring Chiefs and at constant issue with his own villagers. He resided chiefly at Kaithal but frequently at Pehoa, and both places bear witness to his taste for architecture. He enlarged and beautified the fort of Kaithal, built the palace after the model of the house of Sir David Ochterlony at Karnal only on a more imposing scale, and near it a bridge over the Bidkiar Tirath, remarkable for nothing but want of breadth and its level surface. At Pehoa the garden house does great credit to the taste of the architect, but was left incomplete on his death. He built a house and laid out a garden likewise at Kankhal near Hardwar. A noble masonry *band* that he erected across the Saruswati, which threw water down a cut irrigating numerous villages for 16 miles to Kaithal, was destroyed by the British authorities since the escheat. He did more for the district in works of art than any of his predecessors, but in private life he was debauched, in public a tyrant. He was bedridden for some years of his later life, and died at Kaithal on the 14th of March 1843 A. D. when the State lapsed, failing heirs, to the protecting power. He had two wives—Surajkaur, daughter of the Raja of Balabgarh, who was accomplished in Gurmukhi lore, and died shortly after the State lapsed ; and Mahtabkaur, daughter of a *zamindar* of Shamspur, who lived for some years and had a handsome provision allowed her by Government. The opposition of the Queen mother, on the State escheating, to the little escort with Mr. Greathed, the Political Officer, her subsequent flight, carrying off treasure, and her capture, are all on record, and together with the correspondence on the subject form a volume alone. She died at Pehoa, never having to the very last moment given up her hope of being confirmed in the Government of Kaithal. The genealogical tree of the family is as follows :—

BHAI GURBAKHSH SINGH.

Dhana Singh. Desu Singh. Takht Singh. Sukha Singh. Budha Singh.

Mai Bhagbari Karam Singh.

Lal Singh. Bahal Singh. Gurdit Singh. Basawa Singh.

Partab Singh. Udai Singh. Punjab Singh. Gulab Singh. Sangat Singh.

The Kaithal family. The Arnauli family.

CHAP. I. B.
History.
The Sikh Bhais of Kaithal.

On the death of Bhai Ude Singh without issue the greater part of the estates lapsed, only that portion of it being excepted which had been acquired by Gurbakhsh Singh, the founder of the family. To this the collaterals of the Arnauli branch were permitted to succeed. The Bhais of Arnauli came under the reforms of 1849, and ceased in that year to exercise any administrative functions.

The Ladwa Rajas.

The founders of the Ladwa State were Sardars Sahib Singh and Gurdit Singh who mastered Babain and Ladwa, Shamgarh, Saga, Karnal and some villages of Panipat. They came from the Manjha, and established themselves at Babain and Ladwa. After the defeat of the Afghans at Sirhind in 1763 A. D. they lost Panipat and Karnal. Sahib Singh, who was afterwards killed in action near Karnal, bestowed Shamgarh on his brother-in-law, Kirpal Singh, who accompanied the confederacy in the conquest. Gurdit Singh was succeeded by his son, Ajit Singh, who obtained the title of Raja from Lord Auckland for building a bridge over the Saruswati at Thanesar, proved treacherous to the British at the breaking out of the First Sikh War, was imprisoned at Allahabad, destroyed his keeper, and after numerous wanderings died in Kashmir. His sons were kept under surveillance at Saharanpur.

The Khans of Kunjpura.

The founder of the Kunjpura family was a Pathan named Nijabat Khan. His ancestor came from Kandhar, and founded a village in Sindh called Ghurghusht, which he held in *jagir*. Having left Sindh in consequence of family quarrels, Nijabat Khan, with his pupil Mamud Khan, came to seek his fortune in Hindustan. He entered the service of Munna Khan, Wazir of Lahore, and in two years was a commander of several horsemen, when he came down to Wazir Khwaja Nasir-ud-din of Radaur. Here he became a *Risaldar*, sent for his family, and fixed his head-quarters at Taraori; one of the *zamindars* of the villages of Bidauli who had quarrelled with his relations, begged the assistance of his soldiers and gave him the *biswadari* of Kunjpura which was then a swamp or nearly so. Nijabat Khan got some leases of the surrounding villages from the authorities, and gave them to Mahmud Khan, who wanted to build at Kunjpura. The Rajputs destroyed all he did. Nijabat Khan brought his troops over from Taraori and settled them at Kunjpura, and from that time a deadly enmity sprung up between the Rajputs and Pathans. A masonry fort was built at Kunjpura after a hard fight. The fort was first called Nijabatnagar. The cruelty of

CHAP. I. B.

History.

The Khans of Kunjpura.

the Afghans having reached the ears of the *Chakladar* of Saharanpur he sent for Nijabat Khan; he refused to go, a force was sent, and the *Chakladar* Izzat Khan was killed by one of Nijabat Khan's relations. The power of the Afghans increased, and Nijabat Khan made himself master of other lands. The King of Delhi, hearing of the death of his *Chakladar*, sent for Nijabat Khan through Mulraj, Governor of Panipat, who enticed him to Panipat, and sent him a prisoner to Delhi, where he remained for a year. Khwaja Jafir was sent to Kunjpura, but was put to death by the servants of Nijabat Khan. Nawab Bangash of Farrukhabad interceded for Nijabat Khan, and he was released; and his estate Nijabatnagar, and other villages in number as noted in the margin, were granted him in *jagir* on condition of his restraining the Jats and Rajputs, who were taking advantage of the weak state of the empire to give trouble and commit excesses.

Parganah.	No. of villages.
Bidauli ...	5, including Nijabatnagar or Kunjpura.
Karnal ...	6
Thanesar ...	20
Shahabad ...	24
Banu ...	3
Azimabad ...	45
Indri ...	45
Unknown ...	2
	150, valued at 5 or 6 *lakhs* of rupees.

On the incursion of Nadir Shah, Nijabat Khan supplied him with provisions and tendered his obeisance; he became a *Risaldar* of 1,000 *sawars*. The Mahratta army under Jhaku Bhao plundered Kunjpura, when Nijabat Khan was wounded, taken prisoner, and died; some accounts say was slain, aged 75, at Panipat, having lived in Kunjpura for 30 years. Ahmad Shah repulsed the Mahrattas in A. D. 1758, and established Daler Khan, Nijabat Khan's eldest son, at Kunjpura, having first enriched him with spoils from the Mahrattas. Daler Khan enjoyed his possession for 25 years, died aged 60 years in 1782 A. D., and was succeeded by his eldest son Gulsher Khan.

Daler Khan and Gulsher Khan had a hard struggle to maintain their position against the invading Sikhs, and some of the family possessions had to be surrendered. In some cases part of an estate was kept while the remainder was given up; and the revenues of Tiraorí, Singoha and Garhi Gujarañ, Gorgarh, Tanesron and Bahawalpur are still shared between the Nawab and Sikh *jagirdars*. Gulsher Khan died in 1803 and was succeeded by his eldest son Rahmat Khan; several villages were given to his brother Mohi-ud-Din Khan in maintenance, but on the death of Mohi-ud-Din Khan, the number of villages was

CHAP. I. B. History. The Khans of Kunjpura.

reduced to one, the fine estate of Biana, and some land in Kunjpura, which were afterwards held by his son Muhammad Yar Khan. On the death of the latter Biana reverted to the Nawab.

Rahmat Khan died in 1822, and was succeeded by his eldest son, Bahadur Jang Khan, who died childless, seven years after, and was succeeded by his brother Ghulam Ali Khan. The latter died in 1849, when his son Muhammad Ali Khan became Nawab. On his death in 1886 his eldest surviving son Ibrahim Ali Khan succeeded.

The Sardars of Thanesar.

The founder of the Thanesar Chiefship was Mith Singh. Captain Larkins states in his report on the Summary Settlement of Thanesar that Mith Singh is of a family of Nidga Rajputs of the village of Ajnala, *taluqa* Panchgraian in the Manjha; but Captain Abbott states that he was a Jat, that his home was at Bhatti near Sarhala in the Manjha. He embraced the Sikh religion at Amritsar from the hand of Gurdial Singh, and entered the service of Tara Singh. He was a fine young man, and being determined to lead, he deserted with a party from Tara Singh, mastered several villages in the Jullundur Doab, and came to this part of the country with the Dallewalia *misl* in company with his nephews Bhag Singh and Bhanga Singh. The royal fort at Thanesar, built by the Marrals, was held by the troops of the Bhais of Kaithal under the command of Desu Singh; Bhag Singh and Bhanga Singh waited their opportunity in the neighbourhood, while Mith Singh advanced with the conquering Sikhs, and was killed at Meerut. Bhanga Singh and Bhag Singh, with the assistance of the Ladwa Sardars and Karam Singh Nirmala of Shahabad, after one failure, made a successful night attack and possessed themselves of the fort of Thanesar. After the death of Bhai Desu Singh of Kaithal, a large part of his possessions in Indri, and some estates near Pehowa fell into the hands of the two Thanesar Sardars and of the Ladwa Chief. The territory conquered by Bhanga Singh and Bhag Singh comprised a number of estates in the present Indri Pargana, some villages in Pehoa, and a large tract in the Thanesar tahsil. A partition was made, Bhanga Singh taking $\frac{3}{5}$ and Bhag Singh $\frac{2}{5}$. Sardar Bhanga Singh was a savage and determined ruler, and was the only *cis*-Sutlej Chief whom Ranjit Singh feared. He seized Ghias-ud-din Nagar, east of the Jumna, but the Mahratta Bhao Rana took it from him and gave him Bidauli instead. Lord Lake gave him some other territory east of the Jumna in exchange for Bidauli, and it was held by him during his life. In 1806, with the assistance of the Ladwa Sardar Gurdit Singh, the

CHAP. I. B.

History.

The Sardars of Thanesar.

Dallewalias wrested Adoha and Singhaur from the Laudewalia *misls*, and Adoha was assigned as Bhanga Singh's share of the conquered territory. It was taken from him and restored to the Lauda *misl* by Ranjit Singh; but when these territories came under British protection it was retransferred to Bhanga Singh. He died in 1815, leaving a son, Fatteh Singh and a daughter by his wedded wife, and a son, Sahib Singh, by a concubine. The daughter, Karm Kaur, married Karm Singh, the Raja of Patiala, and six villages of Indri were given as her dowry. Sahib Singh had a *jagir* of 9½ villages in Indri, and was succeeded by his son, Bishn Singh, who died a few years ago without male issue. The remainder of Bhanga Singh's estate descended to his son, Fatteh Singh, who died in 1819 leaving a mother Mai Jian and two young widows. Mai Jian managed the estate till 1830, and died in 1836. Rattan Kaur, one of the widows, died in 1844, leaving the other widow Chand Kaur, in possession of the estate, which lapsed on her death in 1850. Bhag Singh, the brother of Bhanga Singh, died in 1791, leaving four sons, three of whom died childless. The estate descended to Jamiat Singh, the son of the youngest brother, Baj Singh, who also died childless in 1832, when the estate lapsed.

Condition of the country at annexation.

The state of the Delhi territory, when it came to us in 1803, has already been described. The Sikh States between our territory and the Sutlej were protected by our mantle from danger from without. But the condition of Kaithal, which was nearest our border, and therefore presumably most influenced by our influence and example, when it lapsed to us in 1843, may be gathered from the following extracts from Sir Henry Lawrence's report in his Summary Settlement of the tract :—

"The old state of the country may be gathered from the fact of more than a hundred men having been killed and wounded in a single boundary dispute, not above four years ago, between two villages of Kathana and Jind; from the village of Pai, within a march of Kaithal, and for 40 years an integral part of the territory, having within the last ten years, withstood the army of the Bhai for 8 months; and from the inhabitants of Chatar in Kathana having never allowed the Sikh officers to enter their villages, being permitted to pay revenue instalments at the *thana* of Kathana. In fact the whole system was one of the expedients, sparing the strong and squeezing the weak. I therefore extended an amnesty as far as possible, taking security from some notorious offenders, and keeping a few others in prison for want of bail. From April to September, 85 persons were convicted and sentenced for thefts and petty robberies. Not a case of gang robbery of wholesale cattle-lifting happened after the first week of our rule. One murder took place, that of a jail *barkandaz*, by three prisoners, who were made over to the ses-

CHAP. I. B.

History.

Condition of the country at annexation.

sions. On the 1st October there were in jail 141, on bail, 25,—a number that may not be considered extraordinary, when it is recollected, not only by what a lawless neighbourhood Kaithal is bordered, but that at least a hundred criminals were let loose upon the country when the outbreak occurred; and that robbery and outrage were scarcely discountenanced by the old Government, and actually recognised by many of the officials. Within a week after the introduction of British rule at Kaithal, there occurred, as already noticed, two flagrant instances of wholesale cattle-lifting, in which more than a hundred men were concerned: most of the culprits were apprehended, and no such instances have since happened, although, under the former Government, they were of daily occurrence. I have taken security bonds from all villages of bad or doubtful character, to pay eleven-fold for all stolen property tracked to their lands, and that the headmen shall be responsible for the acts of all residing within their bounds. One of my first measures was to order all fire-arms to be delivered up at the respective *thanas*, and to forbid more than one sword to be retained for ten houses. To this act I mainly attribute the peace and quiet of the country during the last six months: for although I do not suppose that all the arms were actually given up, the order made the head of villages responsible for their not being used; and I have now the pleasure of thinking that almost all the boundaries in the district have been settled, not only without any loss of life, but, as far as I am aware, without the occurrence of a single affray in a country where it has not been unusual for one village to lose twenty men in a boundary dispute.

"Such was the desolation of portions of the district that, looking from the tops of the village towers, I could often see miles and miles of good land without a single acre of cultivation. * * The people were accustomed to pay no revenue except upon absolute compulsion. * * Kaithal was one year ago as lawless a tract of country as any in India; but something I hope has been effected for its improvement. * * I may instance the Jat village of Chatar, which was formerly the very head-quarters of opposition to authority, and is said never to have admitted a Sikh within its quickset hedge. It was reckoned able to turn out a thousand matchlocks, and the four wards of the village were barricaded against one another. So bad a name had the place that when I visited it in April I was attended by a hundred troopers and a company of infantry: when I went there in August I was accompanied by a single horseman, and found the village one sheet of cultivation. * * As I was riding along the border with Raja Surup Singh we heard and saw the husbandmen singing as they drove their cattle through the saturated fields. The Raja smiled and called my attention to their air of security, observing that if they had been so employed last year the chances were that their cattle would have been carried off by some foraging party."

Five years later Caplain Abbott, Settlement Officer, described the Sikh rule in the Protected States on the Ambala and Karnal border, which had just then been confiscated, in the following words:—

"The arm of the law, if law it can be called, was paralysed; no protection was given to property; indeed the State set the example, and plundered without remorse. Cattle at grazing were attended by bodies of armed men; wars and bloodshed were frequent and common; and want of security caused

CHAP. I. B.

History.

Condition of the country at annexation.

the villagers to plunder in self-defence. Occasionally attempts were made to extend cultivation by cuts from the streams, but these required a small dam across the channel which it was necessary to protect by a tower ; indeed a well could not be worked without a tower in which the wood-work and bullocks were deposited during the night, or on the approach of plunderers. The powerful villages only paid so much revenue as they found it convenient to do. Few crimes were acknowledged, and such as were, were punished by fine with imprisonment until payment. Open evidence was unnecessary to conviction, the secret information of an informer was ample, and the fact of possessing the wherewithal more than conclusive. Murder was punishable by fine ; and cheating, forgery and unnatural offences were considered good jokes."

The Mutiny.

When the Mutiny broke out in 1857, Mr. Macwhirter, the Magistrate of Panipat, was at Delhi, and was killed there. Mr. Richardes, the Unconvenanted Deputy Collector, immediately took over charge ; and though every other European fled, and the fugitives from Delhi warned him that the rebel cavalry were following on their steps, and though " burning and pillage reached to his very doors, " he bravely stayed at his post, kept more or less order in the district, was active in collecting supplies for the troops passing through and for the army besieging Delhi, and succeeded in collecting more than seven *lakhs* of revenue, which he sent to the army. For these services he was appointed Deputy Commissioner of the 1st class. Directly the news of the outbreak reached Jind, the Raja collected his troops and proceeded by forced marches to Karnal, which he reached on the 18th of May. He restored order in the town and its vicinity, marched down the Grand Trunk Road in advance of the British columns, turned his forces on Panipat, recovered Simbhalka which had been seized by the rebels, and kept the road open between Karnal and Delhi. The Maharaja of Patiala was no less prompt. He held Karnal, Thanesar and Ambala in our behalf, and kept the road open from Karnal to Philaur. The Chauhans of the Nardak behaved well. They raised a regiment of cavalry, and they also supplied a body of 250 *chaukidars* for the protection of the city and civil lines where our ordnance magazine was established. The Mandal Nawab of Karnal, Ahmad Ali Khan, from the very first placed himself and his resources unreservedly at our dispesal. For these services his quit-rent of Rs. 5,000 a year was released to him and his heirs male in perpetuity ; and he was presented with *khillat* of Rs. 10,000 in open *darbar*.

In the Thanesar district Captain McNeile was Deputy Commissioner. His principal difficulty arose from the presence of a company of the mutinous 5th Native Infantry, which obliged him to have always at hand part of the Patiala force to keep them in check. The disarming of this company on the 14th July

CHAP. I. B.

History.

The Mutiny.

set the Deputy Commissioner at liberty, and from that time he made his head-quarters at Karnal. Mr. Levien, the Assistant Commissioner, was detached at Shahabad, and Lieutenant Parsons was sent from time to time to reduce turbulent villages, especially towards Kaithal, or to watch the fords and ferries of the river Jumna. In anticipation of a visit from the Delhi mutineers, Captain McNeile had, at the first, destroyed the stamp paper, and soon afterwards sent his treasure to Ambala ; while the jail was fortified and the *jagirdars* called out. At one time it was rumoured that the Ranghars from Hissar purposed to rescue their fellow-clansmen from the Thanesar jail, and the 31st May was the date fixed upon for the attack. Every preparation was made to repel it, but it did not take place. The Ranghar prisoners were immediately afterwards secretly removed in Ambala to be beyond hope of rescue. On June 9th the Raja of Patiala was compelled to draw off his forces from Thanesar in order to protect his own capital, which was in some peril from the Jalandhar mutineers ; but as soon as he learnt they had passed by, his troops were sent back to Thanesar, much to the relief of Captain McNeile.

As was to be expected at such a time, the more turbulent spirits among the people took advantage of the temporary suspension of authority to give trouble both to Government and to their neighbours. Even in the Panipat Bangar sixteen of the largest Jat villages in the Naultha *zail* refused to pay their revenue, drove out the Government village watchmen, joined in the disturbances in the Rohtak district, went to Delhi, whence they returned after an absence of 22 days, and threatened to attack the Collector's camp ; while nineteen other large villages, mostly in the Bhalsi and Korana *zails*, rioted, burnt some Government buildings, committed various robberies and murders, and refused to pay revenue. The Gujars were, of course, not behindhand, and plundered generally about the country. All these villages were fined and punished in various ways ; and *lambardars'* allowances to the amount of Rs. 7,317, representing a revenue of Rs. 1,46,340, were confiscated. In the city of Panipat open sedition was preached, especially in the shrine of Buali Qalandar ; and an attack upon the Collector's camp was only prevented by some Jind troops hurrying up and turning their guns on the town. Hostages were seized, some few men hanged, and the pension of the shrine reduced from Rs. 1,950 to Rs. 1,000 a year. The *tahsildar* of Gharaunda, a Panipat man, had to be removed for disaffection.

CHAP. I. B.

History.

The Mutiny.

If such was the behaviour of the Bangar, it may be imagined that the Nardak was not less troublesome. Some of the large villages caused much anxiety during the mutiny of 1857—notably Siwan, Asandh, Julmana, Gondar, Silwan, Balla, Dachaur; they had no political cause in view, but the inhabitants being Muhammadan Ranghars, a turbulent and predatory class, they broke loose in deeds of violence in general, and refused to pay the Government land revenue. Balla resisted a Regiment of Cavalry under Major Hughes, killing a native officer and some troopers, subsequently receiving severe punishment from the guns of the loyal Mandal Chief, Ahmad Ali of Karnal. Julmana collected a large muster of Ranghars armed with the intention of releasing the prisoners of the Thanesar jail, in which purpose it failed. Asandh seized the Government police station in the fort at the village, and received in return severe castigation and spoliation; ultimately the general misconduct of the Kaithal and Asandh *parganahs* entailed on them a fine of 10 per cent. on the Government revenue, which, together with the revenue, was collected by the district officers at the point of the bayonet. That these villages, however, had no sympathies in common with the mutinous soldiers was evidenced from the fact of their robbing, even to a state of nudity, fugitive soldiers on their way from the Punjab to join the rebel forces at Delhi. Habri, though a *Ranghar* village, was distinguished for good conduct and loyalty under the guidance of intelligent headmen. It may be said generally that the further Nardak showed extreme reluctance to give up the fugitive mutineers from Ferozepore or Jullundur, and positively refused to pay their revenue; and a detachment with some guns under Captain McNeile marched against them. They first attacked Balla, a large and always troublesome Jat village; and "signal chastisement was inflicted in a fight in which scarcely a village in the higher Nardak but had one or two killed or wounded." The Balla people presently somewhat redeemed their fault by giving material assistance in coercing their neighbour Munak. The skirmish had a very good effect upon the countryside; and when Captain McNeile marched upon Julmana, it submitted at once; while the Asandh people ran away into the jungles, and their village was bombarded and burnt, as its inhabitants had been conspicuous in their disloyalty. Heavy fines were realised from the recusant villages. The *lambardars* of Garhi Chhaju paid their revenue into the tahsil without its being demanded, and were rewarded by a personal grant. Sardara, a Jat of Palri, aided some European fugitives from Delhi, and received a revenue-free grant of land in perpetuity.

CHAP. I. C. Population. The Mutiny.

And Qalandar Ali Khan of Panipat gave material assistance, and was rewarded by a pension. On the whole, the district suffered very little. The Government treasury and records escaped unharmed ; and of a total land revenue demand of Rs. 4,70,238 for 1857-58, only Rs. 9,464 was not collected, while the canal irrigation for the autumn crops of 1857 was only three per cent. less than the corresponding irrigation of 1856. In 1858 the numerous village forts which had been built in the times of the Sikhs were dismantled.

Development of the district.

The history of the district since 1857 has been uneventful. The economical development of the population, almost entirely agricultural, is dealt with in Chapter II, and the changes in administrative divisions in Chapter III.

C.—Population.

Successive enumerations.

The population of the district at the last four enumerations is shown below :—

Year.	Total population.	Increase or decrease on previous census.	Density per square mile of cultivation.
1881 ...	820,041	...	561
1891 ...	861,160	+ 5	525
1901 ...	883,225	+ 2·5	492
1911 ...	799,787	— 9·4	452

The density of the rural population per square mile of cultivation averaged 409 in 1911. The pressure on the soil is lightest in the Kaithal tahsil, and highest in Panipat.

Decrease of population, 1911.

The decrease in the total population revealed by the enumeration of 1911 amounts to nearly 10 per cent. when compared with the figures of 1901, and the district now contains fewer inhabitants than at any time during the last 30 or 40 years. Table 11, Part B., in the volume of statistical tables traces the steps in this highly unsatisfactory retrogression. It will be seen that in the 10 years 1891—1900 the birth rate exceeded the death rate, while in every year since 1900, with the exception of 1904 and 1911, the number of births fell far below the number of deaths. The disparity reached its height in 1907 when the birth rate per 1,000 was only 37·8, while the death rate rose as high as 61·3. The number of deaths from fever always ranges high in a district

CHAP. I. C.

Population.

Decrease of population, 1911.

where large tracts are annually flooded by hill streams, and are chronically subject to the effects of excessive percolation from the canals. And in addition during the last decade plague has exacted a heavy toll. It is also clear (*see* table 8, Part B., statistical tables) that the stream of immigrants from Ambala, Patiala and Jind, which was a feature of the years preceding 1900, has either slackened or reversed its course. The extension of canal irrigation in the Punjab and in Native States has offered more attractions to the inhabitants of tracts neighbouring on Karnal than the deserted jungles of Thanesar or Kaithal where the soil is difficult to work, and conditions of life are far from agreeable. It is unlikely that the next enumeration will show a continued decline. The district is not unhealthy as a whole, and the condition of the tracts now suffering from excessive canal percolation is engaging the attention of Government.

Urban population.

The urban population which had remained stationary for more than twenty years, in 1911 showed a considerable decline, especially in Karnal and Kaithal. The cotton-ginning factories at Panipat and a revival of energy among the Muhammadans have maintained the population of that town at its former level in spite of the ravages caused by fever and plague. A general increase in the proportion of Muhammadans among the urban population and a corresponding decrease of Hindus is a noticeable feature of the recent census returns.

Rural population.

Nine-tenths of the population are classed as rural. Customs in such a community vary but little and no apology is needed for reproducing in this volume the inimitable account of village manners and customs written by the late Sir Denzil Ibbetson in 1880 after his settlement of the district.

It should, however, be borne in mind that this well-known description applies more especially to the Panipat and Karnal tahsils and to the southern half of the Kaithal tahsil. In the rest of the district language, dress and customs approximate more closely to the adjoining Punjab districts and Native States.

Social life—The homestead and the homes.

When a new village is founded, the first thing done is to dig out tanks to hold rain water for the cattle, washing, &c. The village is then built on the spoil; and as in course of time old houses fall down and new ones are built, the village is raised high above the surrounding plain; in some of the old Nardak villages as much as 150 or 200 feet. The space immediately around the village is called *goira*; and here the cattle stand to be milked, weavers train their warp, fuel is stacked, dung-hills made, ropes

CHAP. I. C.
Population.
Social life
The homestead and the homes

twisted, sugar-presses erected, and all the operations conducted for which free space is necessary. The village is generally surrounded by a mud wall and ditch as a protection against thieves, and is entered by gates, often brick, and containing side-rooms in which the gossips sit when it grows hot under the huge *bor* tree or *pipal* which generally stands just outside. Main streets (*galis*) run right through from one gate to another; and in Rajput and others villages, where the women are strictly secluded, numerous blind alleys (*bagar*) lead from them, each being occupied by the houses of near relations. In other villages the alleys run right through. The proprietors, Banias, and Brahmans, live in the centre; the menials on the outskirts of the village. The houses are usually of adobe, except in the Nardak and the older villages, where brick is common; the change bearing patent evidence to the tranquillity which we have substituted for anarchy. At two or three commanding positions are common houses (*paras, chopal,* and in Kaithal, *chopar, hethai*) belonging to the wards of the village. In Kaithal these buildings are often imposing structures. There will also be a few *baithaks* or sheds for gossiping in, and many cattle pens scattered about the village.

Entering the street door of a private house you pass into the outer room or *dahliz*, beyond which you must not go without permission, and where your friend will come and talk. It is often partly occupied by some calves. Beyond this is the yard (*chauk*), separated from the streets by a wall, and in which the cattle are tied up in cattle sheds (*bara*), and the women sit and spin. Round this are the houses occupied by the various households of the family. In front of each is a room with the side towards the yard open (*dalan* or *tamsal*) which is the family living-room. On either side of this will be a *sidari* or store-room and a *chatra* or cook-room with its *chhula* or hearth; and there is often an inner room beyond called *obri* or *dobari* if with two doors, and *kota* or *kotri* if with one only. Upstairs is the *chaubara*, where the husband and wife sleep; while the girls and children sleep downstairs, and the boys in the *chopal* or the *dahliz*.

There will be some receptacles for grain (*kothi*) made of rings of adobe built up into a cylinder. This has a small hole in the bottom, out of which the grain runs, and keeps always full a small receptacle open in front, from which it is taken as wanted. There will be some ovens (*bharala, hara*) for warming milk; there will be recesses in the wall to act as shelves (*pendi*); one or two swinging trays or rope rings for water vessels; a few

CHAP. I. C.

Population.

Social life—The homestead and the homes

bedstead (*manja, khat*) made of wooden frames covered with netted string; a few small stools (*pira, pida, khatola*) of identical construction; a few small low wooden tables (*patra*); and some large baskets to store clothes in (*pitar*. There will be some small shallow baskets (*dalri*) for bread and grain; and some narrow-mouthed ones (*bijri*) to keep small articles in.

Domestic utensils.

The metal vessels will consist of large narrow-mouth cauldrons (*tokna, tokni*), for storing water in and cooking at feasts; smaller vessels of similar shape (*batloi*) for ordinary cooking and carrying water to the fields; still smaller ones (*lota, gadwa, banta*) for dipping into water and drinking from; some cups (*sarda*) without handles, some tumbler-shaped drinking vessels (*gilas*, corrupted from English glass), a broad shallow bowl or saucer (*katora bela*) for drinking hot liquid from; a large tray (*thali*); a larger tray for kneading dough in (*parant*); a brass ladle (*karchi*); a spatula for turning bread (*koncha palta khurchna*); a thin iron plate (*tava*) for baking cakes, and some pairs of iron tongs (*chimta*); a fry-pan (*karai*) and a sieve (*chhalni*), both of iron; and an iron bucket (*dol*) for drawing water from the well. The poorer people will not have all of these, and poor Musalmans very few of them; but most of them are necessary to a Hindu, who may cook in, but may not eat out of an earthen vessel if already used. The Hindu's utensils are made of brass, and perhaps a few of bell-metal (*kansi*); the Muhammadan substitutes copper for brass, which he does not use.

The vessels of pottery will be some huge narrow-mouthed vessels for storing water (*mat dagga*); similar ones, but flatter and smaller (*jhakra, kachhali, jhaola*; if mouth very big, *thal*) with mouths broad enough to admit the hand, for grain or flour; similar but smaller vessels for carrying water and milk (*matka* if striped, *ghara* if plain); still smaller ones for dipping water (*thilia, gharia, duna*); milk pots with round brims (*jhab mangi*); and bowls for cooking vegetables and boiling and setting milk in (*handi, baroli*); smaller vessels with spouts to carry milk to the fields in (*karua* if striped, *lota* if plain; if without a spout, *lotki*); large flat saucers for cooking in and eating from (*kunda, kanali*); bowls for keeping sugar, &c. (*taula*); small cups (*matkana*) and platters (*kasora, kasori, sarai*, and *saranu*) used once at feasts and thrown away; small earthen lamps (*diwa*) with a notch for the wick; and various sorts of covers (*kappan, kapni, dhakni, chakni*); also some large broad bowls for feeding cattle from (*nand, hund, nandola*). Besides, there are tiny pots for offerings and play (*kulia*); small saucers (*kaziri, khwajiri*) in which lamps are floated in honour of

CHAP. I. C.
Population.
Domestic utensils.

Khawjah Khizr, and which are also used for eating from and as covers; and tiny lamps (*chugro chigsa*) for the *Diwali* festival. The earthen vessels used by Hindus are usually ornamented with black stripes (*chitan*); but Musalmans will not eat from vessels so marked, because the *ghara* full of water given to a Brahman (*mansna*) on *Ekadshi* after religious ceremonies by Hindus must be striped, and therefore the markings are supposed to be specially Hindu. Of course the metal vessels are expensive; but the remaining furniture of an ordinary village house costs very little. The string of the bedstead is made at home; while the carpenter makes the furniture, and the potter supplies the earthen vessels as part of their service.

Daily life.

The day of twenty-four hours is divided into eight *pahrs* or watches, four of day counting from dawn, and four of night. Each *pahr* is divided into eight *gharis*. The dawn is called *piliphati*, the early morning *tarka*, the evening *sanj*. The daily life of the ordinary able-bodied villager is one of almost unremitting toil. He rises before dawn, eats a little stale bread, gets out his bullocks, goes to the fields, and begins work at once. About 8 o'clock his wife or a child will bring him a damper,* often stale, and a bowl of butter-milk or milk and water (*lasi pakki* or *kachchi*). At noon he has a hearty meal of fresh damper and a little pulse boiled with spices (*dal*), or some boiled vegetable (*sag*); in the cold weather this is brought to him in the field; in the hot weather he goes home for it, and does not begin work again till 2 P. M. In the evening he comes home, and after feeding his cattle eats his dinner, the grand meal of the day. His wife will have pearled some *jwar* and soaked it in the sun till it has swelled (*khata ana*) and then boiled it in milk (*rabri*); or she will have dry-boiled some whole grain and pulse mixed (*khichri*), or made a porridge of coarsely ground grain (*dalia*); or boiled up gultinous rice into a pink mass (*chawal*), or made a rice-milk of it (*khir*). There will be a little pease pudding (*dal*), or the pulse will be boiled with butter-milk and spices (*jholi, kadhi*) and some pickles (*achar*) or rough *chatni*, or some vegetable boiled with salt and *ghi* as a relish. After his meal he goes out for a smoke and a chat to the *chopal*, or under the *bor* tree outside the village.

The grain generally used in the hot weather is a mixture of wheat, barley, and gram, or any two of them, generally grown ready mixed: in the cold weather, *jwar* and maize. Unmixed wheat is seldom eaten, as it is too valuable. The vegetables used are the green pods of the *lobia* (Dolichos sinensis), the fruit of the

* This is perhaps the best word for the bread cake of the country, though it is far inferior to a well-made damper.

eggplant or *bangan* (Solonum melongena) and of the *bhindi* (Abelmoschus esculentus), and of many pumpkins (*kaddu*), gourds (*kakri*), watermelons (*tarbuz*) and sweetmelons (*kharbuzah*), and the leaves of all the Brassicas of the cockscomb or *chaulai* (Amaranthus polygonus), *methi* (Trigonella fenugrœcum), of the small pulses, and the roots of carrots (*gajar*). The spices and pickles are too numerous and unimportant to detail. A hearty young man in full work will eat daily from 1 to 1½ seers of grain, one-eighth of a seer of pulse, and two seers or more of butter-milk besides vegetables, &c. The richer Muhammadans occasionally eat goat's flesh, but this is exceptional; but the Hindu does not touch meat, while to the ordinary peasant of either religion, animal food other than milk and *ghi* is quite beyond his means.

The women of the family have all the grinding, cooking, cleaning the house, and spinning to do; among the Brahmans and Rajputs they are strictly confined to the walls of the court-yard, where they cook, spin, clean cotton of its seed, grind flour, husk rice, and so on. Among the Tagas and Gujars they go to the well for water and take the dinner to the field, and often pick cotton and safflower. Among the Jats and Rors they also weed, and do other hard fieldwork. They all sit much about in the alleys spinning and gossiping, often very much undressed: and though their life is a hard one, it is, to judge from appearances, by no means an unhappy one. The boys, as soon as old enough, are taken from the gutter and sent to tend the cattle; and from that time they are gradually initiated into the labour of their lot. At evening they play noisily about; a sort of rounders, tipcat, hide and seek and prisoner's base, being favourite games. The life is a terribly dull one. The periodical fair or *mela* and the occasional wedding form its chief relief, together with the months of sugar-pressing, when everybody goes about with a yard of cane in his mouth, and a deal of grossiping (as well as a deal of hard work) is done at the press. But the toil is unremitting; and when we think what a mud hovel in a crowded village innocent of sanitation must be in July and August, we can only wonder at the marvellous patience and contentment of the villager.

Clothes.

The men wear a made turban (*pagri*) or a strip of cloth (*dopatta*) wound round the head; a short under-coat buttoning up the front (*kurta*); or else an overcoat (*angarkha* if long *mirzai* or *kamri* if short) fastening with a flap at the side; and a loin-cloth (*dhoti* if broad and full, *arband* if scanty, *langar* if still more scanty), or a waist string (*tagai*, or if of silk *pat*) with a

CHAP. I. C.

Population.

Clothes.

small cloth (*langoti*) between the legs. The *kurta* is new fashioned and is not graceful. A single warp (*chadar*) in the hot weather and a double warp (*dohar*) or a quilt (*rizai*) in cold, and a pair of shoes (*patan*) complete the toilet. Trousers *suthun*) are only worn on occasions of ceremony; a handkerchief (*agoncha*) is occasionally used. Hindus and Musalmans are distinguished by the *angarkha* of the former opening to the right and of the latter to the left. Musalmans sometimes wear their loin-cloth not passed between their legs (*tehmad*) ; but they usually adopt the Hindu fashion, though they preserve their own name for the garment. In the north the coats are worn much shorter than in the south: and the Jats of the south and west on occasions of state often wear turbans of portentous size, especially the Dehia and Dalal Jats. In the north of the tract the turban is always white, lower down often coloured; Ghatwal Jats and Banyas generally wear them red; and religious devotees of a yellow ochre colour. The other clothes are either white or made of prints; never whole coloured.

The married women wear a boddice to support the breasts (*angi* or *angia*) ; married or single they wear a small coat down to the hips (*kurti*) buttoning to the right; a petticoat (*ghagri*, *lenga*) or drawers (*paijamah*), and a wrap (*orhna*). *Teli* and *kumhar* women wear the coat and petticoat in one piece like a gown (*tilak*). The coat is often not worn; but a Rajput woman *always* wears it, though she sometimes omits the boddice. Musalman women generally wear drawers, and Hindu women petticoats. So again Musalman women wear blue (indigo) coats and wraps without admixture of red or yellow; while a Hindu woman wears red clothes as a rule, and will not wear a blue coat or wrap at all; while her petticoat, if blue, must be spotted or embroidered with red or yellow. But *all* Rajput women, unless very old, wear drawers, red or blue according to religion: on the other hand, Musalman Gujar women wear petticoats after consummation of marriage and till they grow old, and Hindu Gujar women wear the petticoat spotted white or red, never whole red. The whole red petticoat is called *daman;* and the Gujar blue petticoat, with or without spots, *tukri:* a petticoat or wrap spotted with red spots is called *thekma*, from *thehna* to spot. Only prostitutes wear *wholly* white clothing. Children go naked till 4 or 5 years old; sometimes boys wear a *langoti* and girls a triangular piece of cloth called *fania*. A girl then wears a petticoat or drawers, and a boy a *langoti* and *tagri*, and sometimes a *jhuga* or shirt. A girl cannot wear an *angi* until she is married and

CHAP. I. C. Population. Clothes.

lives with her husband. The everyday clothes are always made from the village-made cloth, which, though rougher, is much stronger than English. Prints are largely brought into holiday use. The ordinary dyes are indigo for blue and safflower for red and yellow. A complete suit of female clothes is called *til* or *tial*; of male clothes, *jora*.

Jewels and personal adornment.

The jewels (*gena*) worn by men are as follows.—Ear-rings (*gokru*), bracelets made of a cylindrical bar of metal (*kangan, todar*); a single necklace or rosary always containing beads (*mala*); a broad necklace made of chains (*kantla*); a locket (*kanthi*); rings (*angunthi*). Boys often wear waistbands of silver chain (*tagri*). The most usually worn of the above are the ear-rings, single necklace with a small locket (often sacred to Shiv); and if a headman, a ring with a seal in it. It is not good taste for any members of the village proprietary community, except the headman, to wear seal rings. Women wear a band of silver cowries going up the parting of the hair, and fastening to pins on the back (*kauri*); a frontlet on the forehead (*bindi*); plain ear-rings (*bujni*); ear-rings on the top of the ear with loops of chain (*bali*); nose-rings (*nat nath*); necklaces of 14 coins (if all rupees *jhalra*, if one a gold *mohur, tikawal*); bossed armlets (*tad, tadia*); bracelets in the following order from the elbow to the wrists, *pachheli, chhan, kangni, chura*; a breastplate of silver chain (*dharu*); chains and bells fastened to the right-hand corner of the *orhna* (*palli*), bosses and chains fastened to the front of the *orhna* so as to fall over the face (*ghungat*); a silver tassel on the petticoat over the right hip (*nara*), a bunch of chains and tassels on the ankle (*pazeb*); solid anklets (*bank*). Of course the varieties have innumerable names. A woman's social standing is greatly determined by her jewels; and the women, when talking to an English lady, will often condole with her on her husband's stinginess in not supplying her better. The nose-ring, the plain armlet, and the *chura* or wristlet have a social signification. The armlets and bracelets and anklets, being solid and not easy to get off, are always worn; the rest only on state occasions, such as fairs and the like. The ordinary investment for spare capital is to buy jewels for one's wife, as the money can always be realized on occasion. The custom of tattooing (*khinna, godna*) is common, except among the Rajputs and Brahmans. Only women do it; and they tattoo the chin, the inside of the forearm, the outside of the upper arms, the side of the waist, the calf of the leg. The Gujars do not tattoo the arm. Men and prostitutes have small holes drilled in their front teeth, and gold let in (*chaunp*).

CHAP. I. C.
Population.
Birth.

When a woman is about to be delivered she is taken off the bed and put on the ground. If a boy is born, a brass tray is beaten to spread the news. A net is hung up in the doorway, and a garland (*bandarwal*) of mango leaves; and a branch of *nim* is stuck into the wall by the doorway, and a fire lighted in the threshold, which is kept up night and day. Thus no evil spirits can pass. The swaddling clothes should be got from another person's house. They are called *potra;* thus "*potron ka amir*" is equivalent to "a gentleman from his cradle." For three days the child is not suckled. For five days no one from outside, except the midwife, goes into the house. On the night of the sixth day (natives always count the night *preceding* the day as belonging to it) the whole household sits and watches over the child; for on the sixth day (*chhata*) the child's destiny (*lekh*) is written down, especially as to his immunity from small-pox. If the child goes hungry on this, he will be stingy all his life; and a miser is accordingly called "*chhate ko bhukha*", so a prosperous man is called "*chhate ka Raja.*" On the sixth day the female relations come on visits of congratulation, but they must not go into the room where the woman is lying in. The father's sister, too, comes and washes the mother's nipple and puts it into the child's mouth, and the mother takes off her necklace and gives it to her sister-in-law; *gur* is divided to the brotherhood. On the seventh day the female *Dum* or bard comes and sings. Till the tenth day the house is impure (*sutak*) and no one can eat or drink from it, and no man can go into it unless belonging to the household. On the tenth day (*dusuthun*) the net is taken down, the fire let out, all the clothes washed, all the earthern vessels renewed and the house new plastered; the Brahmans come and do *Hom* to purify the house, and tie a *tagari* of yellow string round the boy's waist; and the Brahmans and assembled brotherhood are feasted. The child is often named on this day; the Brahman casting the horoscope and fixing the name. But the parents sometimes change the name if they do not approve of the Brahman's selection. At the birth of a girl the tray is not beaten, no feasting takes place, and no net is hung up or fire lighted. The mother remains impure for five weeks; no one can eat or drink from her hands; and she takes her food separately. As soon as there is hair enough, the boy's head is shaved and his *choti* (scalplock) made; but there are no further ceremonies till his betrothal.

Betrothal.

Betrothal is called *nata;* the ceremony *sagai.* It generally takes place in infancy. When the father of a girl wishes to betoth her, he makes inquiry for a marriageable boy of good

CHAP. I. C. Population. Betrothal.

family, the village barber acting the part of go-between. If matters are satisfactory, he sends the barber to the boy's village, who puts either a ring or one rupee into the boy's hand. This is called *rokna* (from *rokna* to restrain); and if the boy's father returns Re. 1-4-0, called *bidagi*, to the barber to take to the girl's father, he thereby accepts the offer and clenches the engagement. This engagement is not a necessary preliminary of betrothal; and is most customary among castes, such as the Rajputs, who marry at a comparatively late age, and who do not wish to go to the expense of a formal betrothal so long beforehand, for fear one of the children should die and the money be wasted. Among the Gujars, on the other hand, the above ceremony constitutes betrothal; but the *tika* is affixed at the time by the Brahman as described below. It is possible for the proposal to come from the boy's side, in which case he sends his sister's necklace; and if the girl keeps it, his proposal is accepted. But this is only done when the families are already acquainted.

When it is decided to proceed to the betrothal (*sagai*), the barber and Brahman are sent with the *pich-narial,* or one rupee which has been all night in the milk which is set for butter, a loin-cloth (*pich*) and a cocoanut (*narial*). The boy is seated in a chair before the brotherhood, the Brahman puts the *tika* or mark on the boy's forehead and the other things into his lap, and *gur* is divided by the boy's father, who takes hold of the hand of each near relation in turn and puts some *gur* into it. The boy's father then gives Re. 1-4-0* to the Brahman, and double that to the barber. This is called *neg* or *lag*, and must be brought back to the girl's father; and when so brought back completes the betrothal. Ordinarily *no* relation of the girl *may* take any part in the embassy (*lagi*) of betrothal; but Brahmans send the girl's brother-in-law or relation by marriage. Exchange of betrothals between two families (*nata sania*) is considered very disgraceful; and if done at all, is done by a tripartite betrothal, *A* betrothing with *B*, *B* with *C*, and *C* with *A*. Among the Jats, if the boy dies, his father has a right to claim the girl for his other son; or, in default of another, any male relation in that degree. If the girl dies her family has no claim.

Marriage preliminaries.

Jats marry at about 5 or 7 years old; Rors and Gujars at 12 to 14; Rajputs at 15, 16 or even older. Foster relationship is equivalent to blood relationship as a bar to marriage. Any number of wives may be married, but a second wife

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* Wherever other people give Re. 1-4-0, the Jats pay Re. 1 and 4 *taka,* that is, 8 country pice at 5 to the *anna.*

CHAP. I. C.

Population.

Marriage preliminaries.

is seldom taken unless the first is childless. A sister of a first wife may be married, or any relation in the same degree ; but not one above or below. The boy's Brahman fixes an auspicious day, and decides how many ceremonial oilings (*ban*) the boy is to undergo. It must be 5, 7, 9, or 11 ; and the girl will undergo *two* fewer than the boy. The boy's father then sends a *lagan* or *tewa* generally 9, 11, or 15 days before the wedding, which is a letter communicating the number of *ban* and the number of guests to be expected, and is accompanied by a loin-cloth or a complete suit of female clothes (*tial*) and a pair of shoes. In all these communications the Brahman who takes the letter always gets Re. 1-4-0.

The boy and girl then undergo their *bans* in their respective homes. The women collect and bathe them while singing, and rub them from head to foot with oil and turmeric and peameal. The *bans* are given one each night, and are so arranged that the boy's will end the night before the procession starts, and the girl's the night before the wedding. After each *ban* the mother performs the ceremonies of *arata* and *sewal* described below to the boy. The girl has only *sewal* performed, as *arata* can under no circumstances be performed over a female. The day of the first *ban* is called *haldhath*, or "red hand." Seven women with living husbands husk $5\frac{1}{4}$ seers of rice and make sweets with it. The Brahman comes and sticks up two small round saucers, bottom outwards, against the wall with flour, and in front of them a flour lamp is kept alight in honour of ancestors. On either side he makes five marks of a bloody hand on the wall. This is done in each house. In the girl's village the street turnings all the way from the village gate to the bride's house, and the house itself, are also marked with red or red and white marks. After the first *ban* the boy has the *rakri* or black woollen thread, with a small iron ring (*chhalla*) and some yellow cloth and betel-nut, tied round his left ankle. The girl has her small gold nose-ring put on; for up to that time she can only wear a silver one; and she must not wear a large one till she goes to live with her husband. She also takes off her silver wristlets (*chura*) which no married woman may wear; and substitutes for them at least five of glass on each arm. These glass wristlets and her nose-ring form her *sohag*, and a woman who has a husband living (*sohagan*) must always wear them. When her husband dies, she breaks the wristlets off her arm, and throws the pieces and nose-ring on to the corpse, and they are wrapped up within the shroud. After that she may

CHAP. I. C.

Population.

wear silver wristlets again. And occasionally, if a widow has plenty of grown-up sons, she will continue to wear the *sohag*.

Marriage preliminaries.

The day before the procession is to start or arrive, as the case may be, the *manda* or *mandab* is erected. At the boy's house they take five seed-stems of the long *sarkana* grass and tie them over the lintel. They dig a hole in front and to the right of the threshhold, put money in it, and stand a plough beam straight up in it. To this they hang two small cakes fried in *ghi*, with three little saucers under and two above this, and two pice, all tied on a thread. Finally, some five *beran* culms, and a *dogar*, or two vessels of water one on top of the other, are brought by the mother, attended by singing women, and, after worship of the potter's wheel (*chak*), are put by the door as a good omen. At the girl's house the same is done; but instead of burying the plough beam they erect a sort of tent with one central pole, and four cross sticks, or a stool with its four legs upwards, at the top, and on each is hung a brass water-pot upside down surrounding a full one in the middle; or a curtained enclosure is formed, open to the sky, with at each corner a *lichi* or "nest" of five earthern vessels, one on top of the other, with a tripod of bamboos over each.

On the same day the mother's brother of the boy or girl brings the *bhat*. This is provided by the mother's father, and consists of a present of clothes; and necessarily includes the wedding suit for the bride or bridegroom, and in the case of the boy, the loin-cloth and head-dress he is to wear at the marriage; for all that either party then wears must always be provided by his or her mother's brother. The boy's maternal uncle also brings a girl's suit of clothes and a wedding ring; and the girl wears *both* suits of clothes at the wedding. When the *bhat* is given, the boy's or girl's mother performs the ceremony of *arata* or *minna*. She takes a five-wicked lamp made of flour, places it on a tray, and while her brother stands on a stool, waves it up and down his body from head to foot. She also performs *sewal*, which consists in picking up her petticoat and touching his body all over with it. They then take the brother in-doors and feed him on *laddus* or sweetmeat balls. The people then at the boy's village collect in the village common room and the *neota* (see below) is collected, the *bhati* (giver of the *bhat*) putting in his money first, which is a free gift and not entered in the account.

The wedding.

On the day when the marriage procession (*janet*, *barat*) is to start, the boy receives his last *ban* and is dressed in his wedding suit, the *kangna* or seven-knotted sacred thread is tied on his

CHAP. I. C.

Population.

The wedding.

wrist, and his head-dress is tied on, consisting of a crown (called *mor*) of mica and tinsel, a *pechi* or band of silver tinsel over the turban, and a *sehra* or fringed vizor of gold tinsel. He then performs the ceremony of *ghurchari*. The barber leads him, while singing women follow and the mother with a vessel of water; and his sister puts her wrap over her right hand, and on it places rice which she flings at his crown as the boy goes along. He then gives her Re. 1, worships the gods of the homestead, and gives Re. 1 to the *Bairagi*. He is then put into a palanquin, and the procession, to which every house nearly related must contribute a representative, and which consists of males only, starts, as much as possible on horseback, with music of sorts. At each village they pass through they are met by the barber, *Dum*, and the Brahmans, whom they pay money to, and who put *dubh* grass on the father's head, and pray that he may flourish like it. The procession must reach the girl's village after the mid-day meal.

A place, rigorously outside the village, has been appointed for them called *bag* or *goira*. The girl's relations come to meet them, bringing a loin-cloth and 11 *taka* and a little rice and sweetmeats in a tray. The two parties sit down, the Brahmans read sacred texts, the girl's Brahman affixes the *tika* on the boy's forehead and gives a loin-cloth and 11 *taka*, taking a loin-cloth and 21 *taka* in exchange. The two fathers then embrace, and the girl's father takes Re. 1 from his turban and gives it to the boy's father, who gives him in exchange the cloth which is to form the *patka* at the wedding. The girl's father then asks the boy's father for either 11 or 14 pice, the *goira ka kharch*, or expenses of the *goira;* and these he distributes to the menial by-standers, and makes the boy's father pay something to the barber and Brahman. The procession then proceeds to the girl's house, the boy being put on a horse and pice being thrown over his head as a scramble (*bahker*) for the menials. They do not go into the house; but at the door stand women singing and holding flour lamps. The boy is stood on a stool, and the girl's elder married sister, or if she has no married sister her brother's married daughter, performs to him the ceremonies of *arata* and *sewal* already described, and the boy's father gives her Re. 1-4-0. She also performs the ceremony of *warpher* by waving a pot of water over the boy's head and then drinking a little of it, and waving a rupee round his head. The girl's and boy's relations then fight for the stool on which the boy stood, and boy's relations win, and carry it off in triumph to the *jandalwasa* or *dandalwasa*,

CHAP. I. C. Population. The wedding.

which is the place fixed for the residence of the guests. This *should*, in theory, be outside the village ; but for convenience sake it is generally in the *chopal*. Presently the guests are bidden to the girl's house, where they eat ; but the boy stays in the *jandalwasa*, as he must not enter the girl's house till the wedding itself. So, too, the girl's relations do not eat, for they cannot eat that day till the wedding ceremony is over. This ends the first day, called *dhakao*.

That night, at some time after sunset, the wedding ceremony (*phera*) takes place. Shortly before it the girl's barber goes to the *jandalwasa*, where the boy's father gives him a complete suit of clothes for the girl, some jewels, sacred coloured strings to tie her hair up (*nala*), some henna for her hands, and a ring called the yoke-ring (*juaki anguthi*). The girl wears nothing at all of her own, unless it be pair of scanty drawers (*dhola*) ; and she is dressed up in the above things, and *also* in the clothes brought in the *bhat* by her maternal uncle, one on top of the other. The ring she wears on the first finger ; and on her head she wears the *cholasop*, or an unsewn and unhemmed reddish yellow cloth provided by her maternal grandfather used only at weddings, but worn after the ceremony till it wears out. Meanwhile her relations sit down with their Brahman under the *manda*.

There a place on the ground (*chauri, bedi*) has been fresh plastered, and the Brahman makes a square enclosure (*mandal or purat*) of flour, and on it puts sand and sacred fire (*hawan*) of *dhak* wood and *ghi*, and sugar and sesame. Meanwhile the other party has been sent for ; and the boy, dressed in the clothes brought by his maternal uncle, comes attended by his father and nearest relations only. They sit down to the north, the girl's people to the south, and two stools are placed facing the east, on which the boy and girl, who are fetched after all have sat down by her mother's brother, are seated each next his or her people, so that she is on his right hand. When the ceremony commences, the girl's people hold up a cloth for a minute so as to hide the boy and girl from the boy's people, " just as a matter of form." The Brahman puts five little earthen pots (*ulia*) in the sacred enclosure, and makes the boy and girl dip their third fingers into turmeric and touch pice, which he then puts into the pots, the boy offering twice as many as the girl. Sacred texts are then recited. The girl then turns her hand palm upwards, her father puts one rupee and a little water into it, and takes the hand and the rupee and solemnly places them in the boy's

CHAP. I. C.

Population.

The wedding.

hand, saying "I give you my daughter; I give her virgin" (*main apni larki dun, kanya dun*). This is called *kanya dan*. Then the sacred fire is stirred up, the Brahman ties the hem (*palla*) of the girl's wrap to a piece of cloth called the *patka*, and the boy takes the latter over his shoulder and leads her round the fire counter-clockwise four times, and then she goes in front and leads him round three times. Meanwhile the family priests recite the tribe and clan of each, and the names of their ancestors for four generations. This is the *phera*, and constitutes the real marriage. After this the Brahmans formally ask each whether he or she accepts the other, and is ready to perform duties which are set forth in time-honoured and very impressive and beautiful language. The boy and girl then sit down, each where the other sat before; and this completes the ceremony. The bride and bridegroom are then taken into the girl's house, where the girl's mother unties the boy's head-dress and gives him a little *ghi* and *gur* mixed up. There two small earthen saucers have been fixed with flour against the wall, bottom outwards, and a lamp lighted in front of them. This they worship; the boy returns to the *jandalwasa* after redeeming his shoes, which the women have stolen, by paying Re. 1-4-0; while the girl stays with her people.

After ceremonies.

On the second day (*badhar*) the boy's people must not eat food of the girl's people; and they get it from their relations and friends in the village. Various ceremonies involving payment to Brahmans and barbers are performed. At night the girl's father and friends go to the *jandalwasa;* the two fathers, who are now each other's *samdhis*, embrace; the girl's father gives his *samdhi* one rupee and invites the whole *barat*, including the boy, to eat at the girl's house. But when, after eating, they have returned to the *jandalwasa*, the girl's friends follow them, and make them give a nominal payment for it, called *roti ka kharch*, which is given to the menials. On the third day, called *bida*, the *neota* is collected in the girl's house, just as it was in the boy's house before the *barat* started. The boy's people then eat at the girl's house, and return to the *jandalwasa*, whence they are presently summoned to take leave (*bida hona*). The boy's father then presents a *bari*, which is a gift of sugar, almonds, sacred threads, fruits, &c., to the girl's people. The ceremony of *patta* is then performed. The girl's relations form a *panchait* or council, and demand a certain sum from the boy's father, from which the village menials then and there receive their fixed dues. The money is called *patta*. The girl's *panch* having ascertained that all

have been paid, formally asks the boy's father whether any one in the village has taken or demanded ought of him save this money; and he replies in the negative. During this ceremony the girl's father sits quite apart, as he must have nothing whatever to do with taking money from the boy's people, and in fact often insists upon paying the *patta* himself. While the *patta* is being distributed, the girl's mother makes the boy perform the ceremony of *band khulai*, which consists in untying one knot of the *manda*. She then puts the *tika* on his forehead and gives one rupee and two *ladus* (a sweetmeat made into a ball), and the other women also feed him. This is called *johari*. Then the girl's father presents the *dan* or dower, which includes money, clothes, vessels, &c., but no female jewels; and the *barat* returns to the *jandalwasa*. The boy's father then visits all the women (*gotan*) of his own clan who live in the village, and gives each one rupee. The horses and bullocks are then got out, and should assemble at the outer gate of the village though they sometimes go to the door of the house for convenience. Her maternal uncle takes the girl, and followed by women singing, places her in the ox-cart in which she is to travel. She is accompanied by a female barber, called the *larumbi*, and the boy is kept apart. When they are just starting, the two fathers embrace, and the girl's father gives the other one rupee and his blessing; but the girl's mother comes up, and having dipped her hand in henna, claps the boy's father on the back so as to leave a bloody mark of a hand (*thapa*) on his clothes. A few pice are scrambled over the heads of the happy pair; and the procession starts for home, the girl screaming and crying as a most essential form.

When the *barat* reaches the boy's village the friends are collected at the boy's door, which has five red marks of a hand on the wall on either side. The boy and girl are stood on the stool which the *barat* have brought from the other village, and the boy's mother measures them both with a *sela* or string made of the hair of a bullock's tail, which is then thrown away. She also performs the ceremony of *sewal*, and waves a vessel of water over their heads and drinks a little of it. The boy's sister stands in the doorway and will not admit them till the boy pays her one rupee. That night the boy and girl sleep on the floor, and above where they sleep are two mud saucers stuck, bottom outwards, against the wall, and a lighted lamp before them.

On the next auspicious day the girl puts on the wrap with the *patka* still knotted to it; the boy takes it over his shoulder

CHAP. I. C.
Population.
After ceremonies.

and leads her off, attended by women only and music, to worship the god of the homestead, the sacred *tulsi* tree, the small-pox goddess, and all the village deities, and the wheel of the potter, who gives them a nest of vessels for good luck. They go outside the village and perform *kesora*, which consists in the boy and girl taking each a stick and fighting together by striking seven blows or more. Then comes the ceremony of *kangna khelna*. The girl unties the *kangna* or 7-knotted sacred thread which the Brahman tied round the boy's wrist before he started, and he undoes hers. The *kangnas* are then tied to the girl's yoke-ring; and it is flung by the boy's brother's wife into a vessel of milk and water with *dubh* grass in it. The two then dip for it several times with their hands, the finder being rewarded with cheers.* Till this ceremony is performed, the boy and girl must sleep on the ground, and not on bedsteads. Then the boy's elder brother's wife (his *bhabi*) sits down, opens her legs, and takes the boy between her thighs. The girl sits similarly between the boy's thighs, and takes a little boy into her lap. The girl or his mother gives him two *laddus*; and he says, "a son for my sister-in-law, and two *laddus* for me." Some few days after a barber comes from the girl's village, and takes her back to her home.

Consummation of the marriage.

So far the bride and birdegroom are infants, and of course the marriage has not been consummated; in fact, a child conceived at this stage would be illegitimate. The consummation takes place after the return of the girl to her husband's house, called *challa* or *muklawa*. This takes place when the girl is pubert; but must be in either the 3rd, 5th, 7th, 9th, or 11th year after the wedding. The girl's people fix the day; and the boy with some male friends, but without his father, goes to fetch her. The girl then for the first time wears a large nose-ring, an armlet (*tadia*), and a boddice or *angi*. The girl's father gives her some clothes and jewels, and they go off home. As they start, the girl must scream and cry bitterly, and bewail some near male relation who has lately died, saying, "oh! my father is dead," or "oh! my brother is dead." After reaching home they live together as man and wife. The girl stays with her husband a few weeks only; and must then return to her father's home and stay there some six months or a year. She is then brought back for good by her husband, her father presenting her with her trousseau (*pitar*) of clothes and jewels. This she

* Among the Rajputs there are two *kangnas*, one with a rupee and the other with betel-nut tied to it. This ceremony is performed with the former *kangna* at the girl's village the day after the *phera*, and with the latter as described above.

Consummation of the marriage.

retains; but all clothes given by her father to the boy's father previous to this, at marriage or *challa*, must be divided among the female relations of the boy's father and not retained by him.

This is the course of affairs when the parties marry in infancy. But among Rajputs who always marry late, and generally when the marriage has from any cause been delayed till puberty, there is no *muklawa*, but on the third day, before the *barat* starts the ceremony of *patra pherna* or changing the stools is performed. The girl changes all her clothes, putting on clothes provided by her father, and also a large nose-ring, armlet, and boddice. The boy and girl are then seated on stools, and exchange places, each sitting where the other was, and the *patka* is tied up. The girl's father presents both the dower and the trousseau at the same time; and the pair, on reaching home, live as man and wife.

Musalman and other variations.

Among Musalmans there is no *phera;* the *nikah* or Musalman marriage ceremony being substituted for it, which the *qazi* reads in presence of witnesses. Envoys (*vakils*) go into the girl's house to take her consent and come out and announce it, the boy consents himself three times, and the ceremony is complete. But among converts to Islam, at any rate, the other customs and ceremonies are almost *exactly* the same. Of late years the Musalmans have begun to leave off the *sewal* and *arata*, and they often use no *pechi*, though they retain the *sehra*. Local and tribal variations are numerous, but quite unimportant. There are innumerable minutiæ which vary greatly, though quite constant for each tribe or locality. The Rajputs never use a *mor*, nor have the custom of *thapa;* and the tent is often omitted from the *manda* in the Khadar.

Relations following upon marriage.

The wife has to hide her face before all the elder brothers and other elder relations of her husband; not so before the younger ones—elder and younger, being, of course, a matter of genealogical degree, and not of age. Nor may she ever mention the name of any of the elder ones, or even of her husband himself.* When once the ceremonial goings and comings are over—among Rajputs, for instance, where there is no *muklawa*, directly the wedding is over—she may never return to her father's house except with his special leave; and if he sends for her, he has to give her a fresh dower. The village into which his daughter

* In one village there is a shrine to an ancestor who had died childless. It is known by his nick name, and not by his proper name, because the women of the family do not like to pronounce the latter.

CHAP. I. C. Population.

Relations following upon marriage.

is married is utterly tabooed for the father, and her elder brother, and all near elder relations. They may not go to it, even drink water from a well in that village; for it is shameful to take anything from one's daughter or her belongings. On the other hand, the father is continually giving things to his daughter and her husband as long as he lives. Even the more distant elder relations will not eat or drink from the house into which the girl is married, though they do not taboo the whole village. The boy's father can go to the girl's village by leave of her father, but not without.

The custom of *neota*.

There is a curious custom called *neota* by which all the branches of a family contribute towards the expenses of a marriage in any of its component households. If *A* and *B* are relations and *A* first marries his daughter, *B* will contribute, say Rs. 10. If *B* then marries his daughter, *A* must contribute more than this, or say Rs. 12. At further marriages, so long as the *neota* consists between them, the contribution will always be Rs. 10, so that *B* will always owe *A* Rs. 2; but if either wishes to put an end to the *neota*, he will contribute if *A*, only Rs. 8, if *B* Rs. 12. This clears the account, and *ipso facto*, closes the *neota*. The *neota* is always headed by the *bhati* or mother's brother; but his contribution is a free gift, and does not enter into the account, which is confined to the relations of the male line. These contribute even when the relationship is very distant indeed. This is the real *neota*; and is only called into play on the occasion of the marriage of a daughter or son of the house. But in a somewhat similar manner, when the *bhat* is to be provided by the mother's father, he sends a little *gur* to each *neotara* or person between whom and himself *neota* exists; and they make small contributions, generally Re. 1 each. So, too, when the boy's father gives *gur* to his relations at his son's betrothal they each return him Re. 1. The Rajputs call the custom *bel* instead of *neota*, and take it, in the case of the *bhat*, only from descendants of a common great-grandfather.

Remarriage of widows.

A man may marry as often as he pleases. If he marries again on the death of his wife, he is called *daheju*. The ceremonies are exactly the same for a man's different marriages. But under no circumstances can a woman perform the *phera* twice in her life. Thus, among the Rajputs, Brahman and Tagas, who do not allow *karewa* or *karao*, a widow cannot, under any circumstances, remarry. But among other castes a remarriage is allowed under the above name. It is, in its essence, the Jewish Levirate; that is to say, on the death of a man his younger

Remarriage of widows.

brother has first claim to the widow, then his elder brother, and after them other relations in the same degree; though *karewa* cannot be preformed while the girl is a minor, and her consent is necessary. But it has been extended so that a man may marry a widow whom he could not have married as a virgin, the only restriction being that she is not of his own clan. Thus, a Gujar may marry a Jat or Ror widow of any clan but his own. Neither marriage nor adoption, nor any other ceremony, can change the clan of a man or woman, that being, under all circumstances, the clan of the original father. Even women of menial castes can be so married; but the woman is then called *heri hui* though it is still a real marriage. At the same time any marriage out of one's own caste, even if with a higher one, is thought disgraceful. The marriage must not take place within a year of the husband's death. It is effected by the man throwing a red wrap over the woman's head and putting wristlets (*chura*) on her arm in presence of male and female members of the brotherhood. There is no *neota* in *karewa,* because there are no expenses.

Death.

When a Hindu is on the point of death, he is taken off the bed and put with his feet to the east on the ground, on a fresh plastered spot strewn with the sacred *dubh* grass and sesame. Ganges water and milk, and a tiny pearl (they can be bought for a few pice), and gold, are put into his mouth. The friends are called in, and the son or nearest heir shaves completely in public, draws water with his right hand alone, bathes, and puts on a clean loin-cloth, turban and handkerchief, and no other clothes. Meanwhile the widow has broken her *sohag,* and throws it on the corpse, while the men or women of the family, according to its sex, bathe it with the water the son has drawn, put on it a loin-cloth, and sew it up in a shroud (*guji* or *ghugi*). They then place it on the bier (*arthi* or *pinjri*) and bear it out head foremost. At the door a Brahman meets it with *pinds* (balls of dough) and water, which the son places on the bier by the head of the corpse. On the road they stop by a tank or some water, and *pinds* are again put on the bier. Then all the *pinds* are flung into the water, and the bier is taken up the reverse way, with the feet foremost. When they reach the burning place (*chhalla*) the corpse is place on the pyre (*chita*), and the son, taking sacred fire lit by the Brahman, lights the wood (*dag dena*) and fans it. This is the *kiria karm* so often mentioned. When the bone of the skull is exposed, the son takes one of the sticks, of which the bier was made, drives it through the skull (*kapal kiria*) and throws it over the corpse beyond the feet. When the corpse is completely

CHAP. I. C. Population. Death.

burnt, all bathe and return together to the house, and then go off to their homes. The burning should be on the day of death, if possible; but it should always be before sunset.

If the burning was performed on the bank of the Jumna, water is thrown on the ashes; if in the Kurukshetr, the bones are thrown into one of the sacred tanks, and all is over. Otherwise on the third day the knuckle-bones and other small fragments of bones (*phul*) are collected. If they can be taken to the Ganges at once, well and good; if not they are buried in the jungle. But they must not be brought into the village in any case; and when once ready to be taken to the Ganges, they must not be put down anywhere, but must always be hung up till finally thrown by a Brahman into the stream. Their bearer, who must be either a relation, or a Brahman, or *Jhinwar*, must sleep on the ground, and not on a bed, on his way to the Ganges. After the death a *ghara* of water with a hole in the bottom, stuffed with *dubh* grass, so that water will drip from it, is hung in a *pipal* tree; and the water is filled, and a lamp lighted daily for 11 days.

The house is impure (*patak*) till the thirteenth day after death. On the tenth day the *Maha* Brahman or *Acharj* comes. The household perform *dasahi;* that is, they go to the tank, wash their clothes, shave, offer 10 *pinds*, and give the *Acharj* grain enough for 10 meals. On the eleventh or day of *sapinda*, a bull calf is let loose, with a trident (*tarsul*) branded on his shoulder or quarter, to become a pest. The *Acharj* is seated on the dead man's bedstead, and they make obeisance to him and lift him up, bedstead and all. He then takes the bedstead and all the wearing apparel of the dead man, and goes off on his donkey. But he is held to be so utterly impure that in many villages they will not allow him to come inside, but take the things out to him. On the twelfth day the Gujrati Brahman is fed, being given *sidha* or the uncooked materials for dinner only, as he will not eat food cooked even by Gaur Brahmans. On the thirteenth day the Gaur Brahmans are fed, and then the whole brotherhood; the walls are plastered, the earthen vessels changed, all clothes washed, and the house becomes pure. If the man died on his bed instead of on the ground, the house is impure for 45 days; and after the eleventh day special ceremonies called *jap* have to be performed to purify it. Again, if he has died on certain inauspicious days of the month, called *panchak*, five or seven Brahmans have to perform *barni* in order to ease his spirit The same ceremonies are observed on the death of a woman.

Death.

Children under 8 years of age are buried without ceremony. There are no particular ceremonies observed at the death of a Musalman, who is, of course, buried with his feet to the south. *Gosains* and *Jogis* are buried sitting up in salt; and used to be so buried alive before our rule. Their graves are called *samad*. *Bairagis* are burnt, and in the case of an abbot a *samad* erected over some of the bones. *Chamars* are burnt; while sweepers are buried upside down (*mundha*).

Ceremonies for the repose of the spirit.

The disembodied spirit while on its travels is called *paret*; and remains in this state for one year making twelve monthly stages. For the first twelve days after death a lamp is kept lit, and a bowl of water with a hole in the bottom for it to drip from kept full in a *pipal* tree for the use of the spirit. At the end of each month the son gives his family priest the "monthly *ghara*," which consists of a *sidha* or uncooked food for two meals, a *ghara* of water, a towel, an umbrella, and a pair of the wooden shoes (*kharaun*) used where the impure leather is objectionable. At the first anniversary of the death (*barsaudi*) he gives the Brahman a bedstead and bedding, a complete suit of clothes, some vessels, and such other parts of a complete outfit as he can afford. This is called *sajja*. He also gives him a cow with a calf at foot, and some rupees in water.

Character and disposition of the people.

The character and disposition of the people are thus described by Mr. Ibbetson :—

"I have a great liking for the ordinary villager. His life is one of monotonous toil under very depressing cicumstances. He grumbles much, but only as a farmer is bound to do; and he is marvellously patient, cheery and contented on the whole. He is often exceedingly intelligent considering his opportunities, he is hospitable in the extreme, and he loves a joke when the point is broad enough for him to see. His wants are easily satisfied; he has formulated them thus:—

"*Das change bail dekh, wa das man berri;*

"*Haqq hisabi nya, wa sak sir jcori;*

"*Bhuri bhains ka dudh, wa rabai gholna;*

"*Itna de kartar; to bohr na bolna.*

"Let me see ten good oxen and ten maunds of mixed grain, the milk of a grey buffalo and some sugar to stir into it, a fair assessment demanded after the harvest. God give me so much, and I won't say another word.

"I will even say that according to his standard he is moral, though his standard is not ours. The villager looks at the end, and not at the means. If he honestly thinks that his friend is in the right in his claim, a respectable man will tell any number of circumstantial lies to produce the same impres-

CHAP. I. C.

Population.

Character and disposition of the people.

sion on the mind of the Judge. But if he thinks him in the wrong, he will not bear evidence either for or against him; he will say that he knows nothing about the matter. And when formally confronted by the whole brotherhood, a villager will rarely persist in a claim which he knows to be false. Of the good faith that governs the mass of the people in their dealings with one another, it would, I believe, be difficult to speak too highly, especially between members of the same community. Of their sexual morality, I can say nothing. If scandals are common, we hear but little of them, for they are carefully hushed up. My impression is that the village life is infinitely more pure in this respect than that of an English agricultural village; partly, no doubt, because of the early marriages which are customary.

"The loyalty of the people in the tract is, I think, beyond suspicion. They remember the horrors of the days of anarchy which preceded our rule too vividly to be anything else. Two points in our administration, however, are especially complained of by them. They complain bitterly of Native Judges; and say that since their authority has been extended, *andher hone laga*, it has begun to grow dark. And they object to our disregard of persons, and to our practical denial of all authority to the village elders. They say that a headman now-a-days cannot box the ears of an impertinent village menial without running the risk of being fined by the Magistrate; and I think it can hardly be denied that, in many respects, our refusal to recognise the village as a responsible unit is a mistake; while where we do partly enforce the system of joint responsibility, we wholly deny to the people the privilege of joint government."

Musalmans.

The Musalmans of the district must be divided into two very distinct classes. The original Musalmans, such as Saiyids, Pathans, Qoreshis, Sheikhs, and Mughals, are strict followers of Islam. In the villages a few laxities have crept in; but in the main their religion and its customs are those of all Musalmans, and we need say no more about them. But the case is very different with the Musalman Rajputs, Gujars, and similar converts from Hinduism. Their conversion dates, for the most part, from the close of the Pathan, and the early days of the Mughal dynasty. Many of them are said to have been converted by Aurangzeb; and these were probably the last made, for the change of faith always dates from at least eight generations, or 200 years back, and proselytism was, of course, unknown under the Sikhs and Mahrattas. In some cases the whole community of a village is Musalman; but quite as often one branch has abandoned, and the other retained their original faith, and in no case has any considerable group of villages embraced Islam as a whole.

Religious life.

Living thus side by side with their Hindu brethren in the same or the next village, sharing property in the same land, and forming a part of the same family with them, it is impossible that the Musalman converts should not have largely retained

CHAP. I. C.
Population.
Religious life

their old religious customs and ideas. In fact, till some 25 years ago, they were Musalman in little but name. They practised circumcision, repeated the *kalma*, and worshipped the village deities. But after the mutiny a great revival took place. Muhammadan priests travelled about preaching and teaching the true faith. Now almost every village in which Musalmans own any considerable portion has its mosque, often of adobe only; and all the grosser and open idolatries have been discontinued. But the local deities and saints still have their shrines, even in villages held only by Musalmans; and are still worshipped by the majority, though the practice is gradually declining. The women, especially, are offenders in this way. A Musalman woman who had not offered to the small-pox god would feel that she had deliberately risked her child's life. Family priests are still kept up as of old; and Brahmans are still fed on the usual occasions. As for superstitions, as distinct from actual worship, they are untouched by the change of faith, and are common to Hindu and Musalman.

Hindus.

The student who, intimately acquainted with the Hindu Patheon as displayed in the sacred texts, should study the religion of the Hindus of the district, would find himself in strangely unfamiliar company. It is true that all men know of Shiv and of Vishnu*; that the peasant, when he has nothing else to do to that degree that he yawns perforce, takes the name of Narain; and that Bhagwan is made responsible for many things not always to his credit. But these are the lords of creation, and too high company for the villager. He recognises their supremacy; but his daily concerns in his work-a-day-world are with the host of deities whose special business it is to regulate the matters by which he is most nearly affected.

Minor deities.

These minor deities, whose cult comprises the greater part of the peasant's religious ideas and acts, may be broadly divided into four classes. First come the benevolent deities, such as the Sun, the Jumna, Bhumia, Khwaja Khizr, and the like. Then the malevolent deities, mostly females, such as the Small-pox Sisters, Snakes, the Fairies, &c. Then the sainted dead, such as Guga, Lakhdata, and Bawa Farid; and finally, the malevolent dead, such as Saiyads (Shahids). It is a curious fact that most of the malevolent deities are worshipped chiefly by women, and by children while at their mother's apron. Moreover, the offerings made to them are taken not by Brahmans, but by impure and probably

*Brahma is never mentioned save by a Brahman; and many of the villagers hardly know his name.

CHAP. I. C.
Population.
Minor deities.

aboriginal castes* and are of an impure nature, such as *churmas*, fowls, and the like. And they are seldom or never worshipped on Sunday, which is the proper day for the benevolent Hindu deities. The primæval Aryan invaders must have inter-married, probably largely, with the aboriginal women ; and it is a question to which inquiry might profitably be directed, whether these deities are not in many cases aboriginal deities. Even setting aside the theory of inter-marriage, it would be natural that the new comers while not caring to invoke the aid of the beneficent *genii loci*, might think it well worth while to propitiate the local powers of evil upon whose territory they had trespassed. In this very spirit the Hindus have adopted the worship of the Muhammadan saints, and especially of the more malevolent ones. It can do no harm to worship them, while they may be troublesome if not propitiated ; and all these saints are commonly worshipped by Hindus and Muhammadans alike.

Effect of Islam upon Hinduism.

There can be no doubt that the presence of Islam by the side of Hinduism has had considerable effect upon the latter. The Hindu villager, when asked about his gods, will generally wind up by saying "after all there is but one great one (*sahib*)," and they generally give the information asked for with a half smile, and will often shake their finger and say it is a *kachcha* religion. Of course the existence of such a feeling is exceedingly compatible with the most scrupulous care not to neglect any of the usual observances ; and whatever might be his private convictions or absence of conviction, a man would feel that it would be pre-eminently unsafe to omit the customary precautions, and would be thought ill of if he did so.

The sect of *Sadhs*.

There is a new sect called *Sadh*, confined to the Jats, which has made some little progress in the district, two whole villages having entered it. It was founded by one Ude Das, and its head-quarters are at Farrukhabad. The sectarians are free-thinkers, and as they can see no gods, worship none. Their only ceremonial consists in large public dinners, especially on the *Puran Mashi* festival. They abjure tobacco and affect special personal cleanliness. They only marry and eat with one another, but they give their daughters to other Jats.

Shrines.

Temples proper are built only to Vishnu and Shiv, and hardly ever by the villagers, who content themselves with making small shrines to the local deities. The ordinary Hindu

*In some cases the Brahmans will consent to be fed in the name of a deity, when they will not take offerings made at his shrine. And they will in some villages allow their *girls* to take the offerings, for if they die in consequence it does not matter much. Boys are more valuable and must not run the risk.

CHAP. I. C.

Population.

Shrines.

shrine must face the east. It is ordinarily built in the shape either of a rectangular prism capped by a pyramid, or of a cylinder with a bulbous head and pointed finial, and is often only some 12 inches square. It is often surmounted by an iron spike (*sink*). It is generally hollow, with a small door-way in front and at the bottom. The Muhammadan shrine faces the south, and is in the form of a grave with nitches for lamps, and often has flags (*dhaja*) over it. If the shrine of a dead Musalman is large enough to go into, you must be careful to clap your hands (*tali bajana*) before opening the door, as these gentry sometimes sit on their tombs in their bones to take the air, and have been discovered in that condition,—an occurrence which they resent violently. Not unfrequently a tree, generally a *pipal* or *jand*, takes the place of a building; or even merely a fixed spot called *thapwa*. In two villages the distinction between the two classes of shrines has given rise to delicate questions. In one a branch of the family had been converted to Islam after the settling of the village; and when it was proposed to erect a shrine to the common ancestor, who was of course a Hindu, there was much dispute about the form to be adopted. The difficulty was overcome by building a Muhammadan grave facing the south, and the Hindu shrine over it with the door to the east. In another village an Imperial trooper was once burnt alive by the shed in which he was sleeping catching fire. He was originally a Musalman; but he had been burnt and not buried, which seemed to make him a Hindu. After much discussion the latter opinion prevailed; and a Hindu shrine, with an eastern aspect, now stands to his memory.

Modes of worship.

The most ordinary form of worship is a salutation made by joining the hands palm to palm, and raising them to the forehead (*dhok marna*). A villager does this whenever he passes the shrine of a village deity. In one village the mason who built the new common room, threw in, as a thank-offering for the completion of the work, a wooden Englishman who still sits on the top of the house; and though the rain has affected his complexion much for the worse, the people always salute him on coming out of their houses in the morning. There is also *chichkarna*, which consists in touching first the object to be worshipped, and then the forehead, with right hand. Another form of worship is to scoop out a little hollow in the earth by the shrine and fling the soil on to a heap.* This is called *matti kadna*, and

*In the Punjab these heaps of mud flung up in memory of deceased ancestors are called *jothera*, from *jeth*, a husband's elder relative.

CHAP. I. C. — Population. — Modes of worship.

seems very much analogous with the common custom of flinging stones on to a cairn. It is practised chiefly in honour of ancestors and fairies, and heaps of mud raised in this way by a shrine sometimes reach a height of 8 feet. The person doing this will often say to the god "I will dig you a tank"; and perhaps the custom has its origin in the honour attachable to the maker of a tank in this thirsty land; but it is equally possible that this is only a local explanation of a custom brought from a more stony country, and the origin of which has been forgotten, for hundreds of our villagers have never seen a stone in their lives.

Offerings.

Offerings (*charhawa*) generally take the form of a little gram, or milk, or cooked food, or a few sweetmeats offered in front of the shrine in small saucers or jars, the remainder of the offering being given to the appropriate receiver. Libations are not uncommon; and a white cock is sometimes killed. And in many cases Brahmans are simply fed in the name of the god. Offerings of cooked food may be divided into two classes. To the benevolent gods or to ancestors, only *pakki roti*, that is cakes or sweets fried in *ghi*, may be offered; while to the malevolent and impure gods, *kachchi roti*, generally consisting of *churma*, or stale bread broken up and rolled into balls with *gur* and *ghi*, is offered. Brahmans will not take the latter class of offerings. Vows (*kabul*) are common, the maker promising to build a shrine or feed so many Brahmans in the event of his having a son, or recovering from illness, or the like.

Possession divination, and exorcism.

When a villager is ill, the disease is generally attributed to the influence (*opri jhapet*) of a malevolent deity, or of a ghost (*bhut*) who has possessed him (*lipat* or *chipat* or *pilach jana*). Recourse is then had to divination to decide who is to be appeased, and in what manner. There is a class of men called *bhagats* or *syana* (literally, knowing ones) who exercise the gift of divination under the inspiration of some deity or other, generally a snake-god or Saiyad. The power is apparently confined to the menial (aboriginal ?) castes, is often hereditary, and is rarely possessed by women; it is shown by the man wagging his head and dancing; and he generally builds a shrine to his familiar spirit, before which he dances. When he is to be consulted, which should be at night, the inquirer provides tobacco and music. The former is waved over the body of the invalid, and given to the *bhagat* to smoke, and the music plays, and a *ghi* lamp is lighted, and the *bhagat* sometimes lashes himself with a whip; under which influences the soothsayer is seized by the afflatus, and in a paroxysm of dancing and head wagging,

CHAP. I. C.

Population.

Possession, divination, and exorcism.

states the name of the malignant influence, the manner in which he is to be propitiated, and the time when the disease may be expected to abate. Another mode of divination is practised thus. The *syana* will wave wheat or *jawar* over the patient's body, by preference on Saturday or Sunday; he then counts out the grains one by one into heaps, one heap for each god who is likely to be at the bottom of the mischief, and the deity on whose heap the last grain comes is the one to be appeased. The waving of the grain or tobacco over the patient's body is called *chunna;* the counting the grains, *kewali*.

The malignant deity is appeased by building him a new shrine or by offerings at the old one. Very often the grain to be offered is put by the head of the sufferer during the night and offered next day; this is called *orra*. Or the patient will eat some and bury the rest at the sacred spot, or the offerings will be waved over the patient's head (*warna*) before being offered; or on some moonlight night while the moon is still on the wax, he will place his offering with a lighted lamp on it at a place where four roads meet; this is called *langri* or *nagdi*. Sometimes it is enough to tie a flag on the sacred tree or to roll on the ground in the front of the shrine, or to rub one's neck with the dust of it. Boils can often be cured by stroking them with a piece of iron and repeating the name of the deity concerned. Witchcraft proper (*jadu*) is principally practised by the lowest castes, and you hear very little of it among the villagers.

Vishnu, Ram, Narain.

The Hindus of the district are Vaishnavas, though Vishnu is hardly recognized by them under that name. But under the name of Ram and Narain he is the great god of the country. Temples to him (*thakurdwara*) exist in several of the larger villages, generally built by Brahmans or *Bairagis*, and almost always insignificant. He is worshipped under the name of Ram by Rajputs only; under the name of Narain by other castes. On the 11th of Katik or *devuthni gyaras*, when the gods wake up from their four months' sleep, Brahmans are fed in his name; and on the 8th of Bhadon (*Janamashtmi*), such villagers as have fasted, which no man working in the fields will have done, will generally go to the *thakurdwara* and make an offering. And on some Sunday in Bhadon they will feed a few Brahmans in his name. Brahmans and *Bairagis* take the offerings.

Shiv, Mahadev.

Shivalas are not at all uncommon in the villages, built almost without exception by *Banias*. The priests are *Gosains* or *Jogis*, generally of the *kanphate* or ear-pierced class, and they

CHAP. P. C. — Population. — Shiv, Mahadev.

take the offerings. No Brahmans can partake of the offerings to Shiv, or be priest in his temple, though they will worship him and sometimes assist in the ceremonies, thus deviating from the strict rule of the original cult. On the *Sheoratri*, on the 13th of Sawan and Phagan such people as have fasted will go to the *shiwala ;* but it is seldom entered on any other days.

Suraj Devata, or the Sun-god.

This is the god whom the people chiefly delight to honour. Any villager if asked whom he worships most will mention him. No shrine is ever built to this god. Sunday is of course the day sacred to him. On Sunday the people do not eat salt ; nor do they set milk for *ghi*, but make it into rice-milk, of which a part is given to the Brahman in honour of the Sun ; and a lamp is always burnt to him on Sunday. Brahmans are fed every now and then on Sunday in his name, and especially on the first Sunday after the 15th of Sarh, when the harvest has been got in, and the agricultural year is over. Before the daily bath water is always thrown towards the Sun (*argh*)*; and every good man, when he first steps out of doors in the morning, salutes the Sun, and says *dharm ko sahai rakhye suraj maharaj*, or "keep me in the faith, oh Lord the Sun!" Brahmans take the offerings.

The Jumna.

After the Sun comes the River Jumna always spoken of as *Jumna J; ;* and so honoured that even when they complain of the terrible evils brought by the canal, which is fed from the river, they say they spring *Jumna Ji ke dosti se*, "from Lady Jumna's friendship." There are no shrines to the Jumna ; but the people go and bathe in the river, or if unable to go so far, in the canal on the *mekhs* or *sakrants* in Chet and Katik, on the Dusahra of Jeth, and on the 15th of Katik, or every day in that month if near enough. And Brahmans are constantly fed on Sunday in honour of *Jumna Ji*, and take all offerings.

Dharti Mata or Mother Earth.

Every morning, when a man first gets off his bed, he does obeisance to the earth, and says *sukh rakhio Dharti Mata*, "preserve me Mother Earth." When a cow or buffalo is first bought, or when she first gives milk after calving, the first five streams (*dhar*) of milk are allowed to fall on the ground in her honour, and at every time of milking the first stream is so treated. So when medicine is taken, a little is sprinkled in her honour. So at the beginning of ploughing and sowing obeisance is made to her and she is invoked.

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*This is done to the new moon too on the evening of her appearance, if one thinks of it.

CHAP. I. C.

Population.

Bhumia or the God of the Homestead.

The *Bhumia* should, from his name, be the god of the land, and not of the homestead. But he is, in these parts, emphatically the god of the homestead or village itself, and is indeed often called *Khera* (a village) and *Bhumia* indifferently. In one or two villages a god called *Bhairon* or *Khetrpal* (field-nourisher) is worshipped; but, as a rule, he is unknown. When a new village is founded, the first thing of all is to build a shrine to *Bhumia* on the site selected. Five bricks are brought from the *Bhumia* of the village whence the emigrants have come; three are arranged on edge like the three sides of a house, the other two are put over them like a gable roof, an iron spike is driven in, five lamps are lighted, five *laddus* are offered, Brahmans are fed, and the shrine built over the whole. In many cases, where two villages had combined their homesteads for greater security against the marauders of former days, the one which moved still worships at the *Bhumia* of the old deserted village site. *Bhumia* is worshipped on Sunday. They burn a lamp and offer a cake of bread at the shrine, and feed Brahmans. This is always done twice a year, after the harvests are gathered in; and also on other occasions. *Bhumia* is also worshipped at marriages; and when a woman has had a son, she lights lamps and affixes with cowdung five culms of the *panni* grass, called *beran*, to the shrine. So too the first milk of a cow or buffalo is always offered to *Bhumia*. Women commonly take their children to worship *Bhumia* on Sunday. The shrine is very usually built close to the common room; and the only villages in which there is not one are held wholly by Saiyads. Brahmans take the offerings.

Khwaja Khizr, the Water-God.

Khwaja Khizr is the local god of water; though the name really belongs to one of the Muhammadan prophets, whose special duty it is to take care of travellers. He is worshipped more in the Khadar than in the Bangar, and especially on Sunday. Twice a year after the harvests he is worshipped at the well, lamps being lighted and Brahmans fed. And on the festivals of Holi and Dewali, a raft called *langri* is made of the *beran* just mentioned, and a lighted lamp put on it and set afloat on the tank in his honour. Brahmans take the offerings to Khwaja Khizr, though they are occasionally given to the water-carrier or *Jhinwar*.

Pitr or ancestors.

Among the Gujars especially, tiny shrines to the ancestors are common all over the fields; and among other castes they will be found in every village. Occasionally the shrine is to the gentile ancestor, and built upon a brick brought from his shrine

CHAP. I. C.
Population.

Pitr or ancestors.

at the place of origin, as with the Jaglan and Sandu Jats. Mud is always flung up to these shrines. And all the people feed Brahmans in honour of their ancestors on the 15th of the month (*mawas*), and especially in the *kanagat* or the 16 days previous to and including the *mawas* of Asauj, which are specially sacred to the *pitr*. Cattle are never worked on *mawas*.

Sattis.

There are a great number of *sattis* or places where widows have been burnt on their husbands' pyres all over the country. They are generally marked by shrines much larger than any other kind, being 3 or 4 feet square. Lamps are lit and Brahmans fed at them on the 11th or 15th Katik. In one case Tagas, who had emigrated from their old village, used yearly to come more than 40 miles to offer at their old *satti* till quite lately, when they took away a brick from the *satti* and used it as the foundation of a new *satti* at their present village, which answered all purposes. This is always done in the event of emigration. Brahmans take the offerings.

The *gyals* or sonless dead.

When a man has died without a son (*ut naput jana*) he becomes a *gyal* or *ut*, and is particularly spiteful, especially seeking the lives of the young sons of others. In almost every village small low platforms (*bhorka, bauka*), with saucer-like depressions in them, are made to the *gyals ;* and on the *mawas*, and especially on Diwali or the *mawas* of Katik (but *not* in the *kanagat*, which is sacred to the *pitr*), the people pour Ganges water and cow's milk into these saucers, and light lamps and feed Brahmans, and dig mud by them. It is more than probable that *bhorkas* are identical in origin and signification with the "cup-mark" which have so puzzled antiquaries. Brahmans take the offerings. Young children often have a rupee hung round their necks by their mothers in the name of the *gyals*.

The Sitala or small-pox group.

The pustular group of diseases is supposed to be caused by a band of seven sisters, of whom Sitala or Mata, the goddess of small-pox, is the greatest and most virulent. Others of the group are Masani, Basanti, Maha Mai,* Polamde, Lamkaria, and Agwani or the little one who goes in front of all. But the general form the shrine takes in a village is that of a large one for Sitala, and a number of others for the sisters, of whom the people will know the name of only one or two. Basanti is a new addi-

*This is properly a name of *devi* who drives people mad ; and is worshipped by some, but not very generally, on the 8th of Chet and Asauj.

CHAP. I. C.
Population.
The Sitala or small-pox group.

tion to the group, the disease having quite lately come from the hills. They are sometimes called Sri Sitala, Mai Masani, Bari Basanti, and so forth. The people profess to distinguish the disease due to each; but it is impossible to find out what they are, except small-pox, which is undoubtedly due to Sitala.

There are seven principal shrines to these deities at Patri, Kabri, Beholi, and Siwa of this district, Bidhlun near Bhatganw, Birdhana near Jhajjar, and at Gurgaon itself. They are never worshipped by men, but only by women and children of both sexes up to the age of 10 or 12. Enormous crowds collect at these shrines on the 7th of Chet which is called *sil* or *sili saten*, or Sitala's 7th. Besides this, *Phag* or *Dolendhi*, the day after the *Holi* festival, is a favourable day, and any Monday, especially in Chet or Sarh. Sitala rides upon a donkey; and gram is given to the donkey and to his master the potter at the shrine, after having been waved over the head of the child. Fowls, pigs, goats, cocoanuts, and *churma* are offered, and eaten by sweepers and Hindu *Jogis*, and white cocks are waved and let loose. An adult who has recovered from small-pox should let a pig loose to Sitala, or he will be again attacked. During an attack no offerings are made; and if the epidemic has once seized upon a village all offerings are discontinued till the disease has disappeared, otherwise the evil influence (*chhot*) will spread. But so long as she keeps her hands off, nothing is too good for the goddess, for she is the one great dread of Indian mothers. She is, however, easily frightened or deceived; and if a mother has lost one son by small-pox, she will call the next *Kurria*,* he of the dunghill; or *Baharu*, an outcast; or *Mara*, the worthless one; or *Bhagwana*, given by the great god. So, too, many women dress children in old rags begged of their neighbours, and not of their own house, till they have passed the dangerous age.

The Saiyads (*Shahids*) or martyrs.

The country is covered with small shrines to Musalman martyrs; properly *Shahids*, but called Saiyads by the villagers. There was a Raja Tharu in the Nardak, after whom several villages are still called Tharwa, and who dwelt in Habri. He used to levy seignorial rights from virgin brides. One night the daughter of a Brahman suffered thus. Her father appealed for help to Miran Sahib, a Saiyad, who collected an immense army of Saiyads, Mughals and Pathans, and vanquished the Raja. The fight extended over the whole country to Delhi; and the Saiyad shrines are the graves of the Muslamans who fell. But a favour-

*Compare Two penny, Huitdeniers, &c.

CHAP. I. C.

Population.

The Saiyads (*Shahids*) or martyrs.

ite prescription in sickness is to build a shrine to a Saiyad, whose name is often not even given, and when given, is almost always purely imaginary; so that the Saiyad shrines are always being added to, and most of them are not connected with any actual person. Lamps are commonly lit at the shrines on Thursdays; but offerings are seldom made except in illness or in fulfilment of a vow; they often take the form of a fowl or a goat or especially a goat's head (*siri*), and they are taken by Muslaman *faqirs*. Saiyads are very fond of blue flags. One of the Imperial *kos minars* or milestones has been transformed into a Saiyad's shrine by the people of Karnal City and every Thursday evening there are worshippers, and *faqirs* to profit by them. The Saiyads are very malevolent, and often cause illness and death. One Saiyad Bhura, who has his shrine at Bari in Kaithal, shares with Mansa Devi of Mani Majra the honour of being the great patron of the thieves in this part of the Punjab; and a share of the booty is commonly given to the shrine. Boils, especially, are due to them and they make cattle miscarry.

The *Singhs* or snake-gods.

There is a group of *Nagans*, or female Snake-deities, known as *Singhs* by the people, and especially called *Devata* or godling. They are almost always distinguished by some colours; and the most commonly worshipped are *Kali*, *Hari*, and *Bhuri Singh*, or black, green, and brown. But here again the *Bhagat* will often direct a shrine to be built to some *Singh* whom no one has even heard of before; and so they multiply in a most confusing way. They are servants of Raja Basak Nag, King of Patal or Tartarus. Dead men also have a way of becoming snakes—a fact which is revealed in a dream, when a shrine must be built. Their worship extends all over the district, and is practised by all castes; but most of all by Gujars and in the Khadar. If a man sees a snake he will salute it, and if it bite him, he or his heirs, as the case may be, will build a shrine on the spot to prevent a repetition of the occurrence. But independently of this, most villages have shrines to them. Sunday is their day; and also the 9th of Bhadon in particular, when most people worship them. Brahmans do not mind being fed at their shrines, but will not take the offerings, which go to Hindu *Jogis*. Both men and women worship them, especially at weddings and births, and offer *churma* and flags (*dhoja*). They cause fever; but are not on the whole very malevolent, and often take away pains. They have great power over milch cattle; the milk of the 11th day after calving is offered to them; and libations of milk are very acceptable to them. They are certainly connected in the minds of the

The *Singhs* or Snake-gods.

people with the *pitrs* or ancestors, though it is difficult to say exactly in what the connection lies. Wherever the worship of the *pitrs* is most prevalent, there the Snake-gods also are especially cultivated. The snake is the common ornament on almost all the minor Hindu shrines.

Guga Pir.

Guga or Jahir Pir or *Bagarwala*, though a Musalman, is supposed to be the greatest of the snake-kings. He is buried near Hissar, but is worshipped throughout the district. The 9th and 15th of Bhadon, especially the former, are his days; and generally the 9th of any month; and also Mondays. His shrine is usually a cubical building with a minaret on each corner, and a grave inside. It is called a *mari*, and is marked by a long bamboo with peacock plumes, a cocoanut, some coloured thread, and some hand-*pankhas* (*bijna*) and a blue flag on the top. This is called his *chhari* or fly flap; and on the 9th of Bhadon the *Jogis* take it round the village to the sound of drums, and people salute it and offer *churmas*. He is not malevolent; and the loss of respect which his good nature causes him is epitomised in the saying—*Guga beta na dega tau kuchh na chhin lega* :—"If *Guga* doesn't give me a son, at least he will take nothing away from me." He is associated by the people with the five *Pirs*, who occasionally have shrines in the villages.

The *Nuris* or fairies.

The *Nuris* are a somewhat vaguely defined class of malevolent spirits, who attack women only, especially on moon-light nights, giving them a choking sensation in the throat and knocking them down (hysteria). Children, on the other hand, they protect. They seldom have shrines built to them; but a tree or a corner by a tank is generally sacred to them, and here mud is flung to them. They are Musalman, and are apparently the same as the *Prind* or *Peri*, being also known as *Shahpuris;* but they resent being called so, and no woman would mention the word. *Churmas* are offered to them on Thursday evening by women and children, and taken by Musalman *faqirs*, or sometimes by *Jogis* or sweepers, and they are worshipped at weddings. The middle of Chet, too, is a common time for offerings to them.

Minor saints.

The local saints are innumerable, many villages having shrines to names never heard of elsewhere; often those of people killed in the village. A few of the most celebrated saints worshipped in the district are mentioned below :—

Miran sahib was a Saiyad of Baghdad, of whom many wonderful stories are told. He is often said to be the same as *Hazrat Piran Pir* of the Punjab; but this seems very doubtful. He once led a mighty army to battle, and had his head carried

CHAP. I. C.
Population.
Minor saints.

off by a cannon-ball during the fight. But he did not mind a bit and went on fighting. Then a woman in one of Raja Tharwa's villages said "who is this fighting without his head?" Upon which the body said—"*Haqq, haqq,*" and fell down dead, but as he was going to fall he said—"What! Aren't these villages upside down yet?" Upon which every village belonging to and called after Raja Tharwa throughout the country was turned upside down, and all their inhabitants buried except the Brahman's daughter. The walls are still standing upside down to convince you. Miran Sahib was buried in Habri, and is commonly invoked and worshipped by the Nardak people; as also his sister's son Saiyad Qabir. They have a joint shrine called *Mamu-bhanja* (uncle and nephew) in Sunpat.

Lakhdata or *Sakhi Sarwar* is a Punjab saint chiefly worshipped by Gujars and Rajputs. On *Saluno*, the last day of Sawan, the women paint his picture on the wall, and the Brahmans bind a sacred thread on the wrist. He is also called *Rohianwala,* or *Sakhi Sultan* or *Salanwala.*

Bawa Farid Shakarganj of Pakpattan, in Montgomery, is also honoured by the people, and has a shrine at Ghogripur, where crowds of people offer to him after the spring harvest.

Boali Qalandar, a contemporary of *Bawa Farid,* is a very celebrated local saint. He used to ride about on a wall at Burha Khera, but eventually settled at Panipat. He prayed so constantly that it became laborious to get water to wash his hands with each time; so he stood in the Jumna, which then flowed under the town. After standing there seven years the fishes had gnawed his legs, and he was so stiff that he could hardly move. So he asked the Jumna to step back seven paces. She, in her hurry to oblige the saint, went back seven *kos,* and there she is now. He gave the Panipat people a charm which dispelled all the flies from the city. But they grumbled and said they rather liked flies; so he brought them back a thousandfold. The people have since repented. He died at Burha Khera, and there was a good deal of trouble about burying him. He was buried first at Karnal; but the Panipat people claimed his body and opened the grave, upon which he sat up and looked at them till they felt ashamed. They then took away some bricks from the grave for the foundation of a shrine; but when they got to Panipat and opened the box, they found his body in it: so he now lies buried both at Panipat and at Karnal. There is also a shrine to him at Burha Khera built over the wall on which he used to ride. His history is given in the Ain Akbari. He died in 724 Hijra.

CHAP. I. C.

Population.

Minor saints.

Naugazahs, or graves of saints said to be nine yards long, are not uncommon. They are certainly of great length.

Kalu Saiyad, the family saint of the Kaliar Rajputs at Panipat, is a great worker of wonders; and if one sleeps near his shrine, he must lie on the ground and not on a bedstead, or a snake will surely bite him. If a snake should, under any other circumstances, bite a man in the Kaliar's ground, no harm will ensue to him.

Ghosts or *bhuts*.

It has already been explained that the spirit after death undertakes a year's travels as a *paret*. But if, at the end of that time, he does not settle down and enter upon a respectable second life, he becomes a *bhut* or if a female, a *churel*; and as such is an object of terror to the whole country. His principal object then is to give as much trouble as may be to his old friends, possessing them, and producing fever and other malignant diseases. People who have died violent deaths (called *Ghazimurd* or *apgat*) are especially likely to become *bhuts*; hence the precautions taken to appease the Saiyads and others in like case with them. In many villages there are shrines to people who have been killed there. Sweepers, if carelessly buried mouth upwards, are sure to become *bhuts*; so the villagers always insist upon their being buried face downwards (*mundha*), and riots have occurred about the matter, and petitions have been presented to the Magistrate. The small whirlwinds that raise pillars of dust in the hot weather are supposed to be *bhuts* going to bathe in the Ganges. *Bhuts* are most to be feared by women and children, and especially immediately after eating sweets; so that if you treat a school to sweets, the sweet-seller will also bring salt, of which he will give a pinch to each boy to take the sweet taste out of his mouth. They also have a way of going down your throat when you yawn, so that you should always put your hand to your mouth, and had also better say Narain afterwards.

Omens and charms.

The people are very observant of omens (*saguns*). The following verse gives some of the principal ones:—

Kaga, mirga, dahine, bain bisyar ho;

Gaiyi sampat baore jo garur dahine ho.

"Let the crow and the black buck pass to the right; the snake to the left. If a mantis is to the right, you will recoup your losses."

A mantis is called the horse or cow of Ram; is always auspicious, especially on *dusahra*; and the villager will salute

CHAP. I. C.

Population.

Omens and charms.

one when he sees it. Owls portend desolate homes. Black things in general are bad omens (*kasaun*); and if a man wishes to build a house and the first stroke of the spade turns up charcoal, he will change the site. On the other hand, iron is a sovereign safeguard against the evil eye. While a house is being built there is always an iron pot (or a *ghara* painted black is near enough to deceive the evil eye) kept on the works; and when it is finished the young daughter of the owner ties to the lintel of the door a *kangna*, consisting of an iron ring (*chhalla*) with other charms, and her father gives her Re. 1-4 for doing it. Till then the house is not inhabited. The same *kangna* is used at weddings and on other occasions. A *koil* is especially unlucky. Chief among good omens (*saod saon*) is the *dogar*, or two water pots, one on top of the other. It should always be left to the right.

Charms are in common use. The leaves of the *siras* are especially powerful; and after them, those of the mango. They are hung up in garlands with a mystic inscription on an earthen platter in the middle; and the whole is called a *totka*. The *jand* is another very sacred tree. In illness it is a good thing to have an inscription made on an earthen vessel by a *faqir*, and to wash it off and drink the water. So in protracted labour the washings of a brick from the fort *Chakabu* of Amin near Pehoa are potent: or if any body knows how to draw a ground plan of the fort, the water into which the picture is washed off will be equally effective as a potion.

Superstitions.

Of course the superstitions of the people are innumerable. Odd numbers are lucky. *Numero Deus impars gaudet.* But three and thirteen are unlucky, because they are the bad days after death: so that *teratin* is equivalent to "all anyhow." And if a man, not content with two wives, wish to marry again, he will first marry a tree, so that the new wife may be the fourth, and not the third. So if you tread on a three-year old pat of cowdung you lose your way to a certainty. The preference for the number 5, and, less markedly for 7, will have been apparent throughout the foregoing pages. An offering to a Brahman is always $1\frac{1}{4}$, $2\frac{1}{2}$ 5, $7\frac{1}{2}$, and so on, whether rupees or seers of grain. The dimensions of wells and parts of wells and their gear, on the other hand, are always fixed in so many and three-quarter hands; not in round numbers. The tribal traditions of the people and those concerned with numbers and areas, with chief's wives and sons, and with villages, swarm with the numbers 12, 24, $16\frac{1}{2}$, 52, 84 and 360. Hindus count the south a quarter to be especially

Superstitions.

avoided, for the spirits of the dead live there. Therefore your cooking hearth must not face the south; nor must you sleep or lie with your feet towards the south except when you are about to die. To sneeze is auspicious, as you cannot die for some little time after; so when a man sneezes, his friends grow enthusiastic, and congratulate him saying *satan jiv* "live a hundred years;" or *Chakpadi*, a name of *devi* who was sneezed out by Brahma in the form of a fly.

It is well not to have your name made too free use of, especially for children. They are often not named at all for some little time, and when named, are often addressed as *buja* or *buji*, according to sex. If a man is wealthy enough to have his son's horoscope drawn, the name then fixed will be carefully concealed till the boy is 8 or 10 years old, and past danger. And even then it will not be used commonly, the every-day name of a Hindu being quite distinct from his real name given in his *janampatri* or horoscope. At his marriage, however, the real name must be used.

A Hindu will not eat, and often will not grow, onions or turnips; nor indigo, for simple blue is an abomination to him. Nor will a villager eat oil or the black sesame seed, if formally offered him by another; for if he do he will serve the other in the next life. Thus if one ask another to do something for him, the latter will reply:—"*kya, main ne tere kale til chabe hain.*" "What? Have I eaten your black sesame?" Sacred groves (*talak*) are not uncommon; and any one who cuts even a twig from them is sure to suffer for it. They exist in some of the villages where wood is most scarce, but are religiously respected by the people. The Banias of the tract have a curious superstition which forbids the first transaction of the day to be a purchase on credit. It must be paid for in cash and is called *bohni*. The age of miracles is by no means past. In 1865 a miraculous bridge of sand was built over the Jumna in this district at the prayer of a *faqir*, of such rare virtue that lepers passing over it and bathing at both ends were cured. A good many lepers went from Karnal to be cured; but the people say that the bridge had "got lost" when they got there.

Fasts and festivals.

Of course the greater number of the village festivals and the observances appropriate to them are common to all Hindus. But some of them are peculiar to the villages, and a description of them will not be out of place here. The ordinary *Diwali* is on the 14th of Katik, and is called by the villagers the little *Diwali*. On this day the *pitrs* or ancestors visit the house. But the day after, they celebrate the great or *Gobardhan Diwali*, in

CHAP. I. C.

Population

Fasts and festivals.

which Krishna is worshipped in his capacity of cowherd, and which all owners of cattle should observe. On the day of the little *Diwali* the whole house fresh is plastered. At night lamps are burnt as usual, and the people sit up all night. Next morning the house-wife takes all the sweepings and old clothes in a dust pan, and turns them on to the dunghill, saying "*daladr dur ho,*" *daladr* meaning thriftless, lazy, and therefore poor. Meanwhile the women have made a *Gobardhan* of cowdung, which consists of Krishna lying on his back surrounded by little cottage loaves of dung to represent mountains, bristling with grass stems with tufts of cotton or rag on the top for trees; and little dung balls for cattle, watched by dung men dressed in bits of rag. Another opinion is that the cottage loaves are cattle, and the little balls calves. On this is put the churn-staff and five whole sugarcanes, and some parched rice and a lighted lamp in the middle. The cowherds are then called in, and they salute the whole and are fed with parched rice sweets. The Brahman then takes the sugarcane and eats a bit; and till that time nobody must cut, or press, or eat cane. Parched rice is given to the Brahman; and the bullocks have their horns dyed, and get extra well fed.

Four days before the *Diwali*, or on the 11th of Katik, is the *Devuthni Gyaras*, on which the gods wake up from their four months' sleep, beginning with the 11th of Sarh, and during which it is forbidden to marry, to cut sugarcane, or to put new string on to bedsteads on pain of a snake biting the sleeper. On the night of this day the children run about the village with lighted sticks and torches. On the 15th and 11th of Phagan the villagers worship the *aonla* tree or phyllanthus emblica, mentioned by Huen Tsang as being so abundant beyond Delhi. This tree is the emblic myrobolus, a representation of the fruit of which is used for the finial of Buddhist temples. Its worship is now connected with that of Shiv; Brahmans will not take the offerings. The people circumambulate the tree from left to right (*drikamma*), pour libations, eat the leaves, and make offerings, which are taken by the *Kanphate Jogis*. Fasts are not much observed by the ordinary villager, except the great annual fasts; and not even those by the young man who works in the fields, and who cannot afford to fast. *Gur*, flour made from *singhara* or water calthrop, from the *sanwak* grain, wild swamp rice, the seeds of cockscomb (*chaulai*) and milk, in fact almost anything that is not included under the term *naj* or grain, may be eaten on fast; so that the abstinence is not very severe.

CHAP. I. C.
Population.
Tribal distribution.

The chief agricultural tribes of the district are Jats, Rajputs, Gujars, Rors, Kambohs, Syeds and Pathans, the two first being by far the most important. Jats are found in all parts of the district and are particularly numerous in the Kaithal tahsil. They are good cultivators, hard-working and thrifty and receive great assistance from their women. The Jats of Panipat and Kaithal tahsils are physically strong, and generally prosperous. Those of the Indri *pargana* and Thanesar tahsil, owing chiefly to climatic influences, are somewhat degenerate. Rajputs predominate in the Nardak of Karnal and Kaithal, and in the Bet Markanda circle of the Thanesar tahsil. The extension of canal irrigation in Karnal and Kaithal has converted them from a semi-pastoral to an agricultural life, and throughout the district they may be said to have made a marked advance in industry, thrift and prosperity. Gujars are numerous in the Khadar circle of Panipat and the Nardak and Bangar circles of the Kaithal tahsil. With few exceptions, their social position is somewhat inferior and depressed. They still pay but little attention to cultivation, and are addicted to cattle-lifting The Rors are chiefly to be found in the Indri Nardak and the adjoining tract of Kaithal. Like the Jats, they obtain great assistance from their womenfolk in field work. They are energetic and hardworking, but rank below the Jats in the social scale. Of the minor tribes, Kambohs are the most important, and their remarkable industry does not seem to be affected by the enfeebling climate of the Khadar tracts, where their villages are situated. The Syeds, who have important settlements in various parts of the district, notably at Barsat and Pundri, are for the most part rent-receivers and are not usually successful cultivators. The Pathan Nawab of Kunjpura and the Mandal family of Karnal are the principal landowners of the Karnal tahsil, and have also acquired interests in other parts of the district. Arains and Malis are not numerous, but the cultivation of the Panipat Arains, and of the Malis in the Thanesar tahsil, is unequalled. Of the non-agricultural tribes, Brahmans and Banias are the chief landowners. The former are generally genuine agriculturists, but seldom lose their character as *parohats*, or family priests, to the village community. Bania landowners are of all grades, from the important families of Panipat, Karnal and Ladwa to the ordinary village shop-keeper who has foreclosed his mortgage on a few acres.

Former inhabitants.

The Tagas are probably the oldest of the existing inhabitants of the tract: they originally held a great part of the Khadar, and now hold most of *parganah* Ganaur; and as,

CHAP. I. C.

Population.

Former inhabitants.

wherever the river has not passed over the land within recent times, Tagas are still in possession, it is not improbable that they were driven from much of their old territory by changes in the Jumna. The Rajput bards and the traditions of the people tell us that in old days Chandel Rajputs held Kaithal and Samana, and had local head-quarters at Kohand, whence they ruled the neighbouring portion of the tract. The Brah Rajputs held the country round Asandh, Safidon, and Salwan; while the Pandirs held Thanesar and the Nardak, with capitals at Pundri near Fattehpur, Ramba, Habri and Pundrak close to Karnal. The Mandhar Rajputs came from Ajudhia, and, settling in Jind, expelled the Chandel and Brah Rajputs and took possession of their country, the former going towards the Siwaliks, and the latter beyond the Ghaggar. The Mandhars fixed their capital at Kalayat in Patiala, whence they settled the local centres of Asandh, Safidon and Gharaunda.

The Mandhars were unable to make any impression upon the Pandirs, who were presently expelled by the Chauhan Rajputs from Sambhal in Moradabad under the leadership of Rana Har Rai, and fled beyond the Jumna. The Chauhans made Jundla their head-quarters, and held a great part of the Nardak, and also large possessions in the Doab. The Tunwar Rajputs originally held Panipat and the country round, but would seem to have been dispossessed by Afghans in the early days of the Muhammadan conquest. They now hold the country beyond Thanesar, and still own a section of the city of Panipat. The old boundary of the Tunwars, Chauhans and Mandhars in Kaithal used to meet in Pai (now a wealthy village). Pai belonged to the Mandhars. Habri to the east was and is a Chauhan village, and Mundri, which is now a Ror village, was Tunwar. The Tunwars also held Khurana, Phural and Rasulpur, in which last they had a large fort. Pharal is the only village they now hold. Probably they once held the whole Naili tract and were turned out by Mandhars. The Chauhans either alone or in conjunction with their former dependents hold six or seven villages round about Habri.

The Rajput chiefs (Ranas and Rais) would seem, subject to the payment of tribute to Delhi, to have enjoyed almost independent authority up to the time of the consolidation of the Mughal Empire under Akbar, or even later; and squeezing the Ranas was a favourite occupation of the old Afghan Emperors. Their degradation to the position of mere village chiefs is attributed to Aurangzeb, who forcibly converted many of them to the Muhammadan faith.

CHAP. I. C.

Population.

Former inhabitants.

In the Ain Akbari the principal castes of Parganah Karnal are stated to be Ranghars and Chauhans; the word *Rangar*, now used for any Musalman Rajput, being probably applied to the Mandhars, who had adopted Islam. Those of Parganah Panipat are given as Afghans, Gujars and Ranghars. The surrounding castes were Tagas in Ganaur; Afghan and Jats in Sunpat; Jats in Gohana; Rajputs, Ranghars and Jats, in Safidon; Ranghars, in Pundri; Ranghars and Jats in Habri; and Ranghars and Tagas in Indri. The Pandirs held Bhatinda, and the Brahs the country about Samana. Mr. Ibbetson writes in his Settlement Report on Tahsil Panipat and Parganah Karnal :—

"Local tradition has enabled me to make a rough approximation to the tribal distribution at the time of the Ain Akbari (1590 A. D.), and I give it in Map No. V. I think some reliance may be placed upon the *general* features of the map. In some cases the descendants of the former inhabitants still periodically visit the shrines existing on the old ancestral site; and in particular, tombs in the unmistakeable architecture of the Afghans tell every here and there of people who have now disappeared. It will be observed that Afghans then held a large part of the lower Khadar. They had also formerly held a good deal of the Bangar, which was occupied at the time we speak of by Gujars. At present there is only one Afghan village, besides part of the city of Panipat, in the whole tract; and I think the total disappearance of this caste must be accounted for by changes in the river. It is to be noticed that they have been replaced very largely by Gujars; and I do not think Gujars were ever in a position, as Jats most undoubtedly were, to acquire territory by conquest in this part of the country, especially from Afghans. I cannot help thinking it probable that the Afghans left their Bangar villages for the more productive Khadar soil as it was left available by changes in the river; and that they were again, after the time of Akbar, driven out by the branch of the Jumna already mentioned as sweeping over the parts held by them. The parts near Rakasahra and Barana have, as I have already pointed out, escaped river action altogether in recent times, and are still largely occupied by the original Taga inhabitants. But in the intermediate parts of the Khadar the people have only been settled for some eight generations, which, at the usual Indian estimate of 25 years for a generation, would bring their first arrival well this side of the date of the Ain Akbari."

The Gujars were, as usual, intimately connected with the Rajputs, and were for the most part settled by them in portions of their territory. The Gujars who originally held the country about Naraina were Chokar Gujars; those about Sutana and Nain were Chamains; while those of Kohand and Bapauli were Rawals. The two first clans have been largely replaced by Jats and Rors; while the last has spread over the parts of the Khadar formerly occupied by Afghans.

CHAP. I. C.
Population.
Local organization of tribes.

The primary sub-division of the tribes is into *thapas* or *thambas*. A tribal community having obtained possession of a tract, in course of time it would be inconvenient for them all to live together, and a part of the community would found a new village, always on the edge of a drainage line from which their tanks would be filled. This process would be repeated, till the tract became dotted over with villages all springing originally from one parent village. The people describe the facts by saying that, of several brothers, one settled in the village and one in another; but this no doubt means that the parts of the community that migrated consisted of integral families or groups of families descended in one common branch from the ancestor. In this way were divided the many villages known by the same name, with the addition of the words *kalan* and *khurd*, big and little. This by no means implies that *kalan* is *larger* than *khurd*, but only that the elder branch settled in *kalan*. The group of villages so bound together by common descent form a *thapa*, and are connected by sub-feudal ties which are still recognized, the village occupied by the descendants of the common ancestor in the eldest line being, however small or reduced in circumstances, still acknowledged as the head. To this day, when a headman dies the other villages of the *thapa* assemble to instal his heirs, and the turban of the parent village is first tied on his head. When Brahmans and the brotherhood are fed on the occasion of deaths, &c. (*meljor*), it is from the *thapa* villages that they are collected; and the Brahmans of the head village are fed first, and receive double fees. So among the menial castes, who still retain an internal organization of far greater vitality than the higher castes now possess, the representative of the head village is always the foreman of the caste jury which is assembled from the *thapa* villages to hear and decide disputes. In old days the subordinate village used to pay some small *chaudrayat* to the head village on the day of the great *Diwali* The head village is still called "great village," the "turban village," "the village of origin," or "the *thika* village," *thika* being the sign of authority formally impressed in old days on the forehead of the heir of a deceased leader in the presence of the assembled *thapa*. Mr. Ibbetson says:—"In one case a village told me that it had changed its *thapa*, because there were so many Brahmans in its original *thapa* that it found it expensive to feed them. I spoke to the original *thika* village about it, and they said that no village *could* change its *thapa*. '*Put kuput hosakta; magr ma kuma nahin hosakti*'. 'A son may forget his sonship; but not a mother her motherhood.'"

CHAP. I. C. Population. Admission of strangers into the tribal organization.

But the *thapa* is not wholly confined to the original tribe which founded it. A man without sons will often settle his son-in-law in the village as his heir; and as the clans are exogamous, the son-in-law must necessarily be of a different family. So, too, a man will settle a friend by giving him a share of his land. The strangers so admitted have in many cases separated their land off into separate villages; but just as often they still live in the old village, and in some cases have just overshadowed the original family. It is curious to note how the fiction of common descent is, even in these cases, preserved, as has been so well insisted upon by Maine. The man who thus takes a share of another's land is called *bhunbhai*, or "earth-brother;" and if a landowner of a clan other than that of the original owners is asked how he acquired property in the village, his invariable answer is "*bhai karke basaya,*" "they settled me as a "brother."

But it is not only by fictitious relationship that strangers have obtained admission into *thapas*. In some cases the pressure of the troublous times which were so frequent in former days has induced two weak groups of adjoining villages to unite for common defence. And still more frequently, people settled originally as cultivators have, by the lapse of time or by the dying out of the original owners, acquired proprietary rights. Village boundaries were before our times by no means so well defined as they are now, as is shown by the boundaries often zig-zagging in and out of adjoining fields held by different villages, and by contiguous villages sometimes having their lands intermixed. Boundaries, where they lay in uncultivated land held by villages of the same tribe, were probably almost unknown; for even now the cattle graze in such cases almost independent of them.

It was, and is still, a common custom to settle cultivators in a small outlying hamlet (*garhi* or *majra* or *kheri*) in the village area to cultivate the surrounding land; and the old maps and papers show that it was very much a matter of chance whether, when we made a survey and record of rights in land these were marked out off as separate villages or not. It will be shown in the succeeding section of this chapter that we confused cultivating possession and consequent liability for revenue with proprietary right; and when these small hamlets were held by cultivators of a different caste from those of the parent village, they were generally marked off and declared to be their property. This is particularly the case with Rors, many small villages of

CHAP. I. C.

Population.

Admission of strangers into the tribal organization.

which caste are dotted about among the Rajputs of the Nardak. These were originally small communities settled by the Rajputs as cultivators in their land to assist them to bear the burden of the Government demand; and even in Panipat where the Rors are far stronger than in Karnal, they have, almost in every instance, been similarly settled by former Gujar inhabitants, of whom a few families still remain in many villages as the sole representatives of the old owners. Brahmans too have acquired land in many villages by gifts made in the name of religion.

Imperial *thapas*.

The *thapas* above described are those based upon tribal organization, and are still recognized fully by the Rajputs, especially in Kaithal, and more or less by the people generally. But the Imperial revenue system, in adopting the tribal *thapa* as one of its units, somewhat modified its constitution. The revenue was primarily assessed and collected by the local *amil*, an Imperial authority. But he worked principally through the *chaudhris* or local heads of the people, who represented large sub-divisions of the country, based, as far possible, upon tribal distribution. Thus *chaudhris* existed in old days at Jundla, Panipat, Bala and other places, and received an allowance called *nankar* in consideration of the duties they performed. They again worked almost entirely by *thapas*, the assessment being fixed for a whole *thapa*, and being distributed over the constituent villages by the headmen of the villages, presided over by those of the *thika* or chief village. These revenue *thapas* coincided generally with the tribal *thapas;* but they occasionally varied from them from considerations of convenience. Old Parganah Panipat contained 16½ *thapas*, half Jaurasi having been separated by Farrukhsir.

Division of tribes into clans; exogamy and endogamy.

The above remarks apply to the territorial organization of the tribes. But the internal organization of the tribe is still more important as bearing upon its social relations. The tribe as a whole is strictly endogamous; that is to say, no Jat can, in the first instance, marry a Gujar or Ror, or any one but a Jat and so on. But every tribe is divided into clans or *got;* and these clans are strictly exogamous. The clan is supposed to include all descendants of some common ancestor, wherever they live. Mr. Ibbetson writes :—"I have had some doubts whether many of the clans do not take their present names from the places from which they have spread. But I think the reasons against this theory are, on the whole, conclusive; and that the similarity of name, which not very unfrequently occurs, is owing to the village being called after the clan, and not the clan after the

Division of tribes into clans: exogamy and endogamy.

village. Of course local nick-names (*al, beong*) are often given, and these may in some cases have eventually obscured the original clan name." Traces of phratries, as Mr. Morgan calls them, are not uncommon. Thus the Mandhar, Kandhar, Bargujar, Sankarwal and Panihar clans of Rajputs sprang originally from a common ancestor Lao and cannot intermarry. So the Deswal, Man, Dalal and Siwal clans of Jats, and again the Mual, Sual and Rekwal clans of Rajputs, are of common descent, and cannot intermarry.

The fact that many of the clans bear the same name in different tribes is explained by the people on the ground that a Bachhas Rajput, for instance, married a Gujar woman, and her offspring were called Gujars, but their descendants formed the Bachhas clans of Gujars. A Rajput marrying out of his tribe becomes a *ghulam*. This sort of tradition is found over and over again all over the country; and in view of the almost conclusive proof we possess that descent through females was once the rule in India as it has been probably all over the world it seems rash to attribute all such traditions merely to a desire to claim descent from a Rajput ancestor. It would appear that there are actually Rajput clans existing, sprung from Bhat, Brahman and Carpenter fathers and Rajput women. At present the offspring of a mixed connection (marriage proper is impossible) take the caste of the father; but those of the pure blood will not intermarry or associate with them. Some traces of totemism are still to be found; and as gentile organizations have almost always been closely connected with totems, it is probable that further inquiry, and especially an etymological examination of the names of the clans, would greatly extend their numbers. This also would account in many instances for clans in different tribes bearing the same name. Thus, the Jaglan Jats worship their ancestor at a shrine called *Dek*, which is always surrounded by *kaim* trees; and if a woman married in a Jaglan family passes a *kaim* tree, she will cover her face before it as before an elder relation of her husband. Again, the Mor Jats will not burn the wood of the cotton plant.

Exogamy among the clans.

Every clan is exogamous; that is, that while every man *must* marry into his own tribe, no man *can* marry into his own clan. But this is by no means the only limitation imposed upon inter-marriage. In the first place, no man usually marries into a family, of *whatever* clan it may be, that is settled in his own village or in any village immediately adjoining his own. The prohibition is based upon "*simjor ki biradari*," or

CHAP. I. C. Population. Exogamy among the clans.

the relationship founded upon a common boundary; and is clearly a survival from marriage by capture. The old rule is becoming less rigid, especially amongst Musalmans, but two social reasons combine to strengthen its vitality. (1) There is the importance of marrying your daughter where you can get grazing for your cattle in seasons of dearth. For instance Jats of Kaithal Bangar and Jats of Pehowa Naili intermarry with advantage to both sides. (2) There is the important object of getting rid of your father-in-law. If you live near him your wife always wants to visit her parents, and her filial promptings lead to expense and inconvenience. This limitation on inter-marriage with neighbours is further extended by the Rajputs, so that no man of them can marry into any family living in the *thapa*, into any family of which his father, grandfather, or great-grandfather married. Thus, if a Mandhar Rajput married a Chauhan Rajput of *thapa* Jundla, his son, grandson, and great-grandson would not be able to marry any Chauhan of any village in the Jundla *thapa*. But beyond this, and the prohibition against marrying within the clan, the Rajputs have no further limitations on inter-marriage. Among the other castes the *thapa* is not excluded; but no man can marry into any family of the clan to which his mother or his father's mother belongs, wherever these clans may be found. The Gujars, however, who are generally lax in their rules, often only exclude such persons of these clans as live in the individual village from which the relation in question came. In some parts of Ambala the people are beginning to add the mother's mother's clan, or even to *substitute* it for the father's mother's clan; and this may perhaps be a last stage of the change from relationship through women to relationship through men.

Social intercourse among tribes.

Broadly speaking no superior tribe will eat or drink from the hands or vessels of an inferior one, or smoke its pipes. But the reputed purifying influences of fire, especially as exercised upon *ghi* and sugar, and the superior cleanliness of metal over earthen vessels, are the foundation of a broad distinction. All food is divided into *pakki roti*, or fried dry with *ghi*, and *kachchi roti* or not so treated. Thus, among the Hindus a Gujrati Brahman will eat *pakki* but not *kachchi roti* from a Gaur, or Gaur from a Taga, any Brahman or Taga from Rajput, any Brahman, Taga or Rajput from a Jat, Gujar or Ror. Excepting Brahmans and Tagas each caste will drink water from a metal vessel, if previously scoured with earth (*manjna*), and will smoke from a pipe with a brass bowl, taking out the stem and using the

CHAP. I. C. Population. Social intercourse among tribes.

hand with the fingers closed instead, from the same people with whom they will eat *pakki* bread ; but they will not drink or smoke from earthen vessels, or use the same pipe-stem, except with those whose *kachchi* bread they can eat. Jats, Gujars, Rors, Rahbaris (a camel-grazing caste) and Ahirs (a shepherd caste) eat and drink in common without any scruples. These, again, will eat a goldsmith's *pakki* bread, but not in his house; and they used to smoke with carpenters, but are ceasing to do so. Musalmans have lately become much less strict about these rules as governing their intercourse among themselves, and many of them now eat from any respectable Musalman's hand, especially in the cities. And, subject strictly to the above rules, any Musalman will eat and drink without scruple from a Hindu ; but *no* Hindu will touch either *pakki* or *kachchi roti* from *any* Musalman, and will often throw it away if only a Musalman's shadow falls upon it, partly perhaps because Musalmans eat from earthen vessels, which no Hindu can do unless the vessel has never been used before. This affords an easy mode of telling whether a deserted site has been held by Musalmans or Hindus. If the latter there will be numbers of little earthen saucers (*rikabis*) found on the spot. Brahmans and Rajputs will not eat from any one below a Jat, Gujar, or Ror ; while these three tribes themselves do not, as a rule, eat or drink with any of the menial castes ; and the following castes are absolutely impure owing to their occupation and habits, and their mere touch defiles food :— Leather-maker, washerman, barber, blacksmith, dyer (*chhimpi*), sweeper, *dum*, and *dhanak*. The potter is also looked upon as of doubtful purity. The pipes of a village, being often left about in the common rooms and fields, are generally distinguished by a piece of something tied round the stem—blue rag for a Musalman, red for a Hindu, leather for a *chamar*, string for a sweeper, and so on, so that a friend wishing for a smoke may not defile himself by mistake. *Gur* and most sweetmeats can be eaten from almost any body's hand even from that of a leather-worker or sweeper, but in this case they must be whole, not broken.

The Dehia and Haulania factions.

There is a very extraordinary division of almost the whole countryside south of the Rajput territory into the two factions (*khap*) of Dehia and Haulania, respecting the origin of which no very satisfactory information is forthcoming. The Dehias are called after a Jat clan of that name, with its head-quarters about Bhatganw in Sunpat, having originally come from Bawana near Delhi. The Haulania faction is headed by

CHAP. I. C.
Population.
The Dehia and Haulania factions.

the Ghatwal or Malak Jats whose head-quarters are Dher-ka-Ahulana in Gohana, and who were, owing to their successful opposition to the Rajputs, the accepted heads of the Jats in these parts. Some one of the Emperors called them in to assist him in coercing the Mandhar Rajputs, and thus the old enmity was strengthened. The Dehia Jats, growing powerful, became jealous of the supremacy of the Ghatwals, and joined the Mandhars against them. Thus the countryside was divided into two factions; the Gujars and Tagas of south Karnal, the Jaglan Jats of *thapa* Naultha, and the Latmar Jats of Rohtak joining the Dehias*; the Huda Jats of Rohtak, and most of the Jats of the southern half of the district except the Jaglans, joining the Haulanias. In the mutiny, disturbances took place in the Rohtak district between these two factions, and the Mandhars of the Nardak ravaged the Haulanias in the south of the tract. And in framing his *zails* the Settlement Officer had to alter his proposed division so as to separate a Dehia village, which he had included with Haulanias, and which objected in consequence. The Dehia is also called the Jat, and occasionally the Mandhar faction. The Jats and Rajputs seem, independently of these divisions, to consider each other, tribally speaking, as natural enemies; and one is often assured by Jats that they would not dare to go into a Rajput village at night.

The Rajputs.

In briefly describing the principal tribes of the district, we will begin, as in duty bound, with the Rajputs. It is hardly necessary to say much about their well-known tribal characteristics. They are fine, brave men, and retain the feudal instinct more strongly developed than any other non-menial caste, the heads of the people wielding extraordinary authority. They are very tenacious of the integrity of their communal property in the village land, and seldom admit strangers to share in it. The Nardak contributes many soldiers to our army. They are lazy and proud, and look upon manual labour as derogatory, much perferring the care of cattle, whether their own or other people's. In the canal and Khadar parts they have abandoned pastoral for agricultural pursuits; but even here they will seldom, if ever, do the actual work of ploughing with their own hands; while the fact that their women are kept strictly secluded deprives them of an invaluable aid to agriculture. In the Nardak a great part of the actual work of cultivation is done by other castes.

*It is said that the Balian and Sakilan Jats of the Doab joined the Dehias; and that the Tagas of the Doab joined the Haulanias.

They are, of course, cattle-stealers by ancestral profession ; but they exercise their calling in a gentlemanly way, and there is certainly honour among Rajput thieves. Musalman Rajputs are called *Ranghars* by other castes and *Chotikats* by their Hindu brethren, from *choti*, the Hindu scalp-lock, which the Musalman does not preserve. But both terms are considered abusive, especially the latter. The principal clans are the Chauhans and the Mandhars.

The Mandhars were settled in very early days in the country about Samana ; for Firoz Shah chastised them, carried off their Ranas to Delhi, and made many of them Musalmans. The Safidon branch obtained the villages now held by them in the Nardak in comparatively late times by inter-marriage with the Chauhans. And though they expelled the Chandel Rajputs from Kohand and Gharaunda when they first came into these parts, yet the Chandels re-conquered them ; and the final occupation by Mandhars coming direct from Kalayat in Patiala is probably of comparatively recent date. They, with the other four clans already mentioned as connected with them by blood, are descended from Lao, a son of Ramchandar and grandson of Raja Dasarat, and said to be the founder of Lahore. Their phratry is called Lachman, after a childless son of Raja Dasarat ; Ramchandar having another son Kuskumar who ruled Kashmir and founded the Kachwaha and Narban gentes. They are of Suraj Bansi clan. Their place of origin is Ajodhia ; and Kalayat in Patiala, their head-quarters in these parts.

The Chauhans are all sprung from the original people who settled at Jundla. They all claim descent from Rana Har Rai ; but as it is improbable that he conquered the country single-handed, and as his followers probably included Rajputs whose descendants are still in possession, this cannot be true. At the same time it is probable that the eldest line, in which authority descended from Rana Har Rai, has been preserved in its integrity. According to this, 19 generations, equivalent to 475 years, have intervened since the Chauhan conquest, which would fix it at about the time of Bahlol Lodhi, when the Chauhans of Moradabad took a new departure. They are of the Agnikula clan. Their origin is from Sambhar in Ajmir ; but Rana Har Rai came from Sambhal in Moradabad, where the family bards still live. Many of them are now Musalmans, and the change of religion dates from some generations back. They are the highest of the Rajput clans about here, and some of the Muhammadan members will even marry with their own clans in the neighbourhood. The

CHAP. I. C. — Population. — The Rajputs.

Khuhi Chauhans on the Ganges will do this even when Hindus; but they practise second marriage and other abominations. They intermarry freely, however, with all the Rajputs in these parts, subject to the limitations already stated.

The Tunwars have almost wholly disappeared from the district, being now chiefly represented by the Rajputs of the town of Panipat. They are of the Lunar race. Pharal in Kaithal is a large Tunwar village, and the neighbourhood is called Tunwaron. If a man is asked whether Pharal is in the Nardak or Bangar, he says it is in neither but *Tunwaron men.* The Nardak in Kaithal is to a considerable extent used to designate the country occupied by Madhras and Chauhans; that is, the tribal limit to a certain extent fixes the limit of territory known as Nardak.

The Jats.

The Jats are pre-eminently the agricultural caste of the tract, and, with the exception of the Rors, and of the Rains, Malis, and Kambohs, who are practically market gardeners, are best cultivators we have. A Jat, when asked his caste, will as often answer "*zamindar*" as "Jat." They are a fine stalwart race. Mr. Ibbetson measured one at Didwari 6 feet 7 inches high and 42½ inches round the chest. He complained that a pair of shoes cost him Re. 1-8. They are notorious for their independence, acknowledging to a less degree than any other caste the authority of their headmen. They hold several tribal groups of villages; but they also own parts of villages almost all over the tract save in the Gujar and Rajput portions. They seem to have held parts of the country about Samana in very early days, and, as already noted, that part certainly formed a part of an early Indo-Scythian kingdom. The Jats of the district seem to have come partly from the Bagar, where they were in force 700 years ago. In no case have Jats settled from across the Jumna. The Jats are not mentioned as a prominent caste of the tract in Akbar's time, and probably gained a footing during the breaking up of the Mughal dynasty, when they became an important element in the politics of the time. Elliott and Cunningham divide the Delhi Jats into Dese and Pachade; but no trace of this division at present exists save that there is a powerful clan called Deswal in Rohtak, and that the Jats hold a *des* of 84 villages in the Doab. The Jats of the tract are almost without exception Hindus. Those who have become Musalmans are called *Mule Jats,* and are only found in two or three villages; and there even are only individual families,

generally said to be descended from hostages taken in infancy by the Musalman rulers and circumcised by them. The principal clans are as follows :—

Jaglan, sprung from Jagla, a Jat of Jaipur, to whom there is a shrine in Israna at which the whole *thapa* worships. They hold the 12 villages (*barah*) of *thapa* Naultha, and come from Ludas, in Sirsa or Hissar.

Ghanghas, sprung from an ancestor called Badkal, whom they still worship, and who has a shrine in Puthar. They hold the *thapa* of Mandi, and come from Dhanana near Bhiwani, in the Bagar.

Gatwal or *Malak*, dating their origin from Garh Ghazni, and holding Bawana, whither they came from Ahulana in Gohana. They hold Ugra Kheri and the villages settled from it, and are scantily represented in this district. In the old days of Rajput ascendancy the Rajputs would not allow Jats to cover their heads with a turban, nor to wear any red clothes, nor to put a crown (*mor*) on the heads of their bride-grooms, or a jewel (*nath*) in their women's noses. They also used to levy seignorial rights from virgin brides. Even to this day Rajputs will not allow inferior castes to wear red clothes or ample loin clothes in their villages. The Ghatwals obtained some successes over the Rajputs, especially over the Mandhars of the Doab, near Deoban and Manglaur, and over those of the Bagar near Kalanaur and Dadri, and removed the obnoxious prohibitions. They then acquired the title of *malak* (master) and a red turban as their distinguishing mark ; and to this day a Jat with a red *pagri* is most probably a Ghatwal.

Deswal, who hold Korar, Madlauda, Ataola, Mahaoti, and other villages, and came from Rohtak, where they have their head-quarters in the village of Mandauthi.

Katkhar or *Gahlaur*, perhaps the most powerful Jat clans in the tract, holding the 12 villages (*bara*) of Jaurasi. They came from Mot Pali in Hissar.

Sandhu worship Kala Mehar or Kala Pir, their ancestor, whose chief shrine is at Thana Satra in Sialkot, the head-quarters of the Sandhus. They hold Gagsina, Khotpura, and other villages ; and have come here *viâ* Phul Maharaj in Patiala.

Halawat, who hold Babil and other villages, and came from Dighal in Rohtak. They worship a common ancestor called Sadu Deb.

CHAP. I. C.

Population.

The Jats.

The chief remaining clans are shown below:—

No.	Clan.	Head-quarters.	Place of origin.
1	Jun ...	Kurlan and Dimana ...	Delhi.
2	Rathi ...	Manana and Bal Jatan ...	Bahadurgarh in Rohtak.
3	Sahrawat ...	Karbas, Palri ...	Delhi or its neighbourhood, *viâ* Rohtak.
4	Kharab ...	Nara ...	Delhi, *viâ* Khani Kheri in Hansi.
5	Narwal ...	Waisar and Kheri Naru ...	Kathura in Rohtak.
6	Nandal ...	Dahar, &c. ...	Bohar in Rohtak.
7	Dehia ...	Idiana	Rohna in Rohtak.
8	Kundu ...	Shahpur Kayath (Rohtak) ...	Tatauli in Rohtak.
9	Kali Ramni ...	Padla, Bazida and Balana ...	Garh Ghazni, *viâ* Sirsa: Patan (Pak Patan ?); Garhwal; Rawar, in Rohtak; and Kont, near Bhiwani.
10	Phor or Dhaliwal	Dhansauli	Garh Ghazni, *viâ* Dhola *thapa* near Lahore.
11	Man ...	Bala and Ghogripur ...	Batinda in Malwa, *viâ* Ganurkhera beyond Hissar.
12	Bainiwal ...	Qavi, Bhabpura ...	Bhadra Churi, near Bikanir, *viâ* Rattak in Kaithal.
13	Ruhal ...	Beholi, &c. ...	Bhiwani.
14	Nain ...	Bhalsi, Bal Jatan ...	Bighar in Bikanir. Marry in Kasendhu (Rohtak) and Jind.
15	Lather ...	Phusgarh	Karsaula in Jind.
16	Kadian ...	Siwa	Chimni, near Beri in Rohtak, *viâ* Bajana in Sunpat.
17	Dahan ...	Shahrmalpur	Salwan in Kaithal.
18	Dhaunchak ...	Binjhaul	Belon ka Bihana in Kaithal. Marry in Lat in Chauganw of Rohtak.

Less locally important, but still holding considerable areas, are the Huda, Mityan, Mandhar, and Gotia clans from Rohtak; the Goit, Nohra, Kahral, Sumra (or Gurelia), and Dhandu clans from Jind; the Panu, Kajal, Bhakar, Gauria, Matian, Chahil. Kohar, Lochab, and Punia clans from the Bagar of Hissar and Bikanir; the Phandan and Bangar clans from Kaithal; the Laur

from Sirsa; the Kor from Delhi; the Dhul from Ludas in Bikanir, *viâ* Bopla in Rohtak; and the Naru and Bhaja from Bhera in district Shahpur.

The Gujars.

The Gujars are a notorious thieving tribe; and, as a rule, their cultivation is of the most slovenly description, though in many of the Khadar and canal villages they have really applied themselves in earnest to agriculture. They have a habit of breaking up far more land than their numbers and appliances can properly cultivate; and though their women will go to the well, bring food to the workers in the field, pick cotton, and do other light work, yet they will not weed or do any really hard labour in the fields like the Jat women. The difference between a Gujar and a Rajput thief was well put by a villager as follows:—"A Rajput will steal your buffalo; but he won't send his father to say he knows where it is and will get it back for Rs. 20, and then keep both the Rs. 20, and the buffalo. The Gujar will." The local opinion of the Gujar is embodied in the proverb—

Kutta, billi do,	*Yih char na ho,*
Ranghar, Gujar do;	*To khule kiware so.*

"The dog and the cat, two; the Ranghar and Gujar, two. Were it not for these four you might sleep with your door open." Again, "*Jitte dekhen Gujar, itte deyie mar*"; or "wherever you see a Gujar, hit him." This character has been enjoyed by them from of old. The Gujars are, like the Rajputs, singularly unwilling to admit strangers to property in their villages. They are closely allied with the Rajputs; and their possession of parts of the Bangar was probably contemporaneous with that of the Mandhars, parts of whose conquests, such as Kohand, were given them. But in the Khadar they have succeeded Afghans in comparatively recent times save in a very few old villages. The principal clans are:—

Rawal.—This clan claims descent from a Rajput called Dhundpal from beyond Lahore, who married a daughter of a Gujar called Ghokar. It is part of the Ghokarbansi clan, and takes its specific name from Rua Sarsa near Lahore. In one village they say that the ancestor was a Khokhar Rajput, and this is probably the better form of the tradition. They settled in Rana Khera (now Rajapur), but moved thence to Kabri and Kohand, where they held a *bara* of 12 villages; and they also held Bapauli,

CHAP. I. C.

Population.

The Gujars.

whence they eventually settled the 27 villages (*sataisi*) of the Khojgipur *thapa* in the Khadar. They still hold the Khadar villages ; but have lost most of those near Kohand.

Chokar.—This clan comes from Jewar *thapa*, beyond Mathra, *viâ* Bali Qutbpur, in Sunpat. They used to hold a *chaubisi* (24 villages) with Namaunda their head-quarters, and are probably very old inhabitants. They have been to a great degree displaced by Jats.

Chamain.—This clan claims descent from a Tunwar Rajput by a Gujar mother ; and the real gentile name is said to be Tunwar, Chamain being only a local appellation. They came from Delhi and settled in Nain and Sutana and the neighbouring villages ; and are certainly very old inhabitants, very possibly having emigrated when expelled from neighbourhood of Delhi by Sher Shah a few years after the Chauhan settlement. They have been largely dispossessed by Rors.

Kalsan.—This clan claims descent from Rana Har Rai, the Chauhan of Jundla by a Gujar wife. They had given them a part of his conquests in the Doab, where they are still in great force, and they hold a little land in the Chauhan Nardak.

Other clans are Cheharwal or Daharwal, and Puswal from the neighbourhood of Delhi ; Bhodwal from Meerut ; Karhawat from Jhajjar ; Bang and Katane from Kaithal ; Bhonkal from Bagpat ; Khari from Sirsa Patan, *viâ* Delhi ; Chauri from Chitrân in Hansi, and Gorsi from Pehoa. They are none of them of any local importance.

The Rors.

No satisfactory information whatever is forthcoming as to the origin of the Rors. Most of them date their origin from the neighbourhood of Badli, near Jhajjar in Rohtak ; and there are traditions of a Tunwar Rajput as ancestor. They hold a *chaurasi* of 84 villages about Pehoa, and a *bara* of 12 villages beyond the Ganges. They occupy many villages in the Mori Nardak, some in the east of *parganah* Kaithal, and a few in the south of Kaithal tahsil near the Jind border ; but they have obtained their property in the district almost exclusively by being settled as cultivators by the original owners, generally Rajputs and Gujars, who have since abandoned their villages, or died out wholly or died in part. The Rajputs say that the Rors were originally Ods who used to dig the tanks at Thanesar. They themselves claim Rajput origin, and Rajputs have been heard to admit the origin of the Dopla *got* of Rors in Amin, &c., from Rana Har Rai by a Rorni wife. Socially they rank below Jats.

The Rors.

The Rors, while almost as good cultivators as the Jats, and assisted by their women in the same way, are much more peaceful and less grasping in their habits; and are consequently readily admitted as cultivators where the Jats would be kept at arm's length. They are fine stalwart men, of much the same stamp as the Jats. The number of clans represented in the district is very great, almost every Ror village including several; and there are no large groups of villages held by a predominant clan, as is the case with the tribes already described. They are strongest in Indri Nardak and along the Rohtak canal, where they hold many villages originally possessed by Gujars. The principal clans are :—

Jogran, descended from a Chauhan Rajput called Joga by a Ror woman. They hold the large village of Korana, and came from Kalayat in Patiala, *viâ* Pundri in Kaithal.

Ghanter, from Gurawar in Rohtak, and *Kandol* from Anwali in Rohtak. These two clans hold Alupur and neighbouring villages.

Khechi came from Narar Jajru, in Jaipur, where they are still numerous. They hold Ahar, &c.

Besides these there are the Kulania, Gurak, Maipla, Dumian, Rojra and Kainwal from Delhi; the Kharangar, Lathar, Jarautia, Dhankar, Khaskar and Chopre, from Rohtak; the Tharrak, Kokra, Talso Dodan, Turan and Lamra, from Kaithal and Jind; the Kultagria from Thanesar; and the Mual from Bikanir; all of which hold considerable areas in the district.

The Tagas.

The Tagas, who must be carefully distinguished from the criminal Tagus of these parts, also of Brahminical origin, are a Brahman caste which has abandoned (*tagan karan*) the priestly profession and adopted agriculture. They have Brahmans as their family priests. They are all Gaurs; and according to tradition their origin dates from the celebrated sacrifice of snakes by Janamejaya (vulg. Jalmeja Rishi, also called Raja Agrand), which is said to have taken place at Safidon in Jind. At that time there were no Gaurs in this country, and he summoned many from beyond the sea (*sic*). Half of them would take no money reward for their services; upon which he gave them 184 villages in these parts, when they decided to take no further offering in future, and became Tagas. The others took the ordinary offerings, and their descendants are the Gaur Brahmans of these parts. Both retained their division in ten clans, and are hence called *dasnam* Brahmans.

CHAP. I. C.
Population.
The Tagas.

The Hindu Tagas still wear the sacred thread, but Brahmans do not intermarry with them, and will not even eat ordinary bread from their hands. Many of them are now Musalmans. It must not be supposed that a Brahman *now* relinquishing the priestly craft and taking to agriculture will become a Taga; the Tagas were made once for all, and the limits of the tribe cannot now be extended. They are, as already stated, the oldest inhabitants of the tract; but are now confined to the parts about Hatwala and Barana. The Barana and Sanauli Tagas are of clan Bachhas from Kalwa Jamni in Jind; those of Pundri and Harsinghpur of clans Parasir, from the neighbourhood of Pehoa; those about Hatwala are of the Bharadwaj, Gautam and Saroha clans, and come from Sirsa Patan, *viâ* the Khadar, to the south of the tract. They are, as cultivators, superior to the Rajput, Gujar and Brahman; but fall very far short of Jat and Ror. Their women are strictly secluded.

The Brahmans.

Brahmans hold only a small area in the tract, there being but few villages in which they have acquired any considerable share. But they own small plots in very many villages, being, for the most part, land given to family priests (*parohits*) by their clients (*jijmans*) as religious offerings (*pun dan*). They are vile cultivators, being lazy to a degree, and they carry the grasping and overbearing habits of their caste into their relation as land-owners, so that wherever Brahmans hold land, disputes may be expected. The local proverb goes *Brahman se bura, Bagar se kal.* "As famine from the desert, so comes evil from a Brahman." The great mass of the Brahmans of the tract are Gaur. Some of them belong to the Chaurasia sub-division who assisted at Janamejaya's holocaust of snakes (see Tagas *supra*), and received a gift of a *chaurasi* of 84 villages. They are considered inferior to the Gaurs. There are also a few Sarsut Brahmans, who are said to be far less grasping and quarrelsome than the Gaurs, and are certainly less strict in their caste habits, so that Gaurs will not eat ordinary bread from their hands. The most common *gots* are the Bharadwaj, Bashista, Gautam, Bachhas, Parasir and Sandlas. The Brahmans have, in almost all cases, followed their clients from their original abodes to the villages in which they are now settled. They hold little land. But there are two tribes of Brahmans which, though they own no land at all, are of special interest; they are Gujrati and the Dakaut.

The Gujrati and Dakaut Brahmans.

Offerings to Brahmans are divided into *bar* or *graha* for the days of the week, and the two *grahin* for Rahu and Ket, the two demons who cause eclipses by attacking the sun and moon.

CHAP. I. C.

Population.

The Gujrati and Dakaut Brahmans.

These two are parts of a *jin* (Rakshas), who, when sitting at dinner with the gods and *jins*, drank of the nectar of the gods instead of the wine of the *jins*. The sun and moon told of him, and Bhagwan cut him into two parts of which Rahu, including the stomach and therefore the nectar, is the more worthy. When any body wishes to offer to Brahmans from illness or other cause, he consults a Brahman, who casts his horoscope and directs which offering of the seven *grahas* should be made. The *grahins* are more commonly offered during an eclipse, that to Rahu being given at the beginning, and that to Ket at the end of the transit. The Gaur Brahmans will not take any black offerings, such as a buffalo or goat, iron, sesame (*til*) or *urd*, black blankets or clothes, salt, &c., nor oil, second-hand clothes, green clothes, nor *satnaja*, which is seven grains mixed, with a piece of iron in them; these belonging to the *grahe* whose offerings are forbidden to them. An exception, however, is made in favour of a black cow.

The Gujrati or Bias Brahmans who came from Gujrat in Sindh, are in some respects the highest class of all Brahmans; they are always fed first; and they bless a Gaur when they meet him, while they will not eat ordinary bread from his hands. They are fed on the 12th day after death, and the Gaurs will not eat on the 13th day if this has not been done. But they take inauspicious offerings. To them appertain especially the Rahu offerings made at an eclipse. They will not take oil, sesame, goats, or green or dirty clothes; but will take old clothes if washed, buffaloes, and *satnaja*. They also take a special offering to Rahu made by a sick person, who puts gold in *ghi*, looks at his face in it, and gives it to a Gujrati, or who weighs himself against *satnaja* and makes an offering of the grain. A buffalo which has been possessed by a devil to that degree that he has got on to the top of a house (often no difficult feat in a village), or a foal dropped in the month of Sawan or buffalo calf in Mag, are given to the Gujrati as being unlucky. No Gaur would take them. Every harvest the Gujrati takes a small allowance (*seori*) of grain from the threshing floor, just as does the Gaur.

The Dakauts came from Agroha in the Dakhan. Raja Jasrat, father of Ramchandar, had excited the anger of Saturday by worshipping all the other *graha* but him. Saturday accordingly rained fire on Jasrat's city of Ajodhia. Jasrat wished to propitiate him, but the Brahmans feared to take the offering for dread of the consequences; so Jasrat made from the dirt of his body one Daka Rishi who took the offerings, and was the ancestor of the Dakauts by a Sudra woman. The other Brahmans, how-

CHAP. I. C.
Population.
The Gujrati and Dakaut Brahmans.

ever, disowned him; so Jasrat consoled him by promising that all Brahmans should in future consult his children. The promise has been fulfilled. The Dakauts are pre-eminent as astrologers and soothsayers, and are consulted by every class on all subjects but the dates of weddings and the names of children, on which the Gaurs advise. They are the scape-goats of the Hindu religion; and their fate is to receive all the unlucky offerings which no other Brahman will take, such as black things and dirty clothes. Especially they take the offerings of Wednesday, Saturday, and Ket. They are so unlucky that no Brahman will accept their offerings; and if they wish to make them, they have to give them to their own sister's sons. No Hindu of any caste will eat any sort of food at their hands, and at weddings they sit with the lower castes; though of course they only eat food cooked by a Brahman. In old days they possessed the power of prophecy up to 10-30 A. M.; but this has now failed them. They and the Gujratis are always at enmity, because as they take many of the same offerings, their interests clash.

The Saiyads.

The principal Saiyads are those of Barsat, of the Zedi branch, and descended from Abul Farah of Wasat in Arabia, who accompanied Mahmud Ghaznavi, and, settling first at Chhat Banur in Patiala and then at Sambhal Heri in Muzaffarnagar, was the ancestor of the Chatrauli Saiyads. The Saiyads of Saiyadpur and Jal Pahar are Huseni Saiyads, the former from Mushad in Arabia, the latter from Khojand, near Khorasan. The Faridpur Saiyads are Musavi from Qazwin in Persia. All belong to the Bara Saadat, who played such an important part in the latter days of the Mughal Empire. There is also a large community of Saiyads at Baras, descended from Shah Abdal from Chist, who assisted Sikandar Lodi at the siege of Narwar and obtained a grant of part of the village. They have an old MS. family history of some interest. Mr. Ibbetson writes:—

"The Saiyad is emphatically the worst cultivator I know. Lazy, thriftless, and intensely ignorant and conceited, he will not dig till driven to it by the fear of starvation, and thinks that his holy descent should save his brow from the need of sweating. At the best he has no cattle, he has no capital, and he grinds down his tenants to the utmost. At the worst he is equally poor, dirty, and holy. He is the worst revenue-payer in the district; for light assessment means to him only greater sloth. I have known a Saiyad give one-third of the yield of the grain-field to a man for watching it while it ripened: and if his tenants' rent is Rs. 10, he is always glad to accept Rs. 5 at the beginning of the season in full payment."

CHAP. I. C.

Population.

Miscellaneous and menial tribes.

Gadis.—The chief land-owning tribe left undescribed is the Gadis, almost always Musalmans, who eat from the hands of almost the lowest castes. They are mostly of the Sarohe clan, and come from the Bagar or from the Ambala district, where they are very numerous.

Kambohs, Rains and Malis.—The Kambohs, who are the very best cultivators possible, also come from the Ambala district, where they have flocked in from Patiala and settled in great numbers. The Rains and Malis, who practise market gardening, are chiefly settled in the towns, where they cultivate as tenants.

Bairagis.—The Nimawat Bairagis of Goli, Waisri, and Harsinghpur, the Rama Nandi Bairagi of Sita Mai and Bhandari, and the Radha Balbhi Bairagis of Barana and Matnauli own a good deal of land. Besides the monks (*sadhu*) of the monasteries (*asthal*) whose property descends to their disciples (*chela*), who are called their *nadi* children, many of the Bairagis have married and become *Ghirist* and have descendants by procreation, or *bindi* children, thus forming a new caste. This latter class is drawn very largely from Jats. The monastic communities are powerful, are exceedingly well conducted, often very wealthy, and exercise a great deal of hospitality.

Shekhs.—Of Shekhs proper (Arabs), the only representatives in the tract are the Qoreshis, Ansaris, and Mahajarin (Makhdumzadah) of Panipat. But every low caste convert to Islam calls himself a Shekh, and such Shekhs are known in the district as *Sidqi.* There is even a Mandhar Rajput Musalman family in the town of Karnal, which has taken to weaving as an occupation, and is called Shekh instead of Rajput. The Mandhars visit them, but will not intermarry. But the most remarkable Shekhs are a menial caste of that name, which is represented in almost every village by one or two small families, and from which the village watchmen have been almost exclusively drawn from time immemorial. The people say that it was the policy of the old Emperors to have some Muhammadans in every village, and that they therefore appointed and settled these people, and the story is not improbable.

Jogis.—There is a caste called Jogi, generally Hindu, which is one of the lowest of all castes, and receives the offerings made to the impure gods. They are musicians, and practise witchcraft and divination. They must be carefully distinguished from the *Kanphate Jogis,* or monks of Shiv, who are a sect of religious devotees and not a caste at all, and in fact do not marry.

CHAP. I. C.

Population.

Miscellaneous and menial tribes.

Menial Castes.—The menial castes (*kamins*) only hold land in the rarest possible instances. Their place in the village community is fully described in the next section. They are principally distinguished by their elaborate caste organization, which is so complete that their disputes seldom come into our courts. The heads of most of the communities live at Panipat, except that of the washermen, who lives at Barsat. They are called *khalifa* for the tailor, *raj* for the mason, *mistri* for the carpenter and blacksmith, *mahtar* for the sweeper. And if you wish to be polite to any of the members, you address him by the corresponding term, just as you call a landowner *chaudhri* after the *chaudhri* or headmen of village groups, as a London street-boy will call a subaltern Captain or a Scotchman Laird, and as Artemus Ward called a London policeman Sir Richard. The sweepers worship a god called Lal Beg, a small shrine being erected in the yard, with a *ghara* sunk in the ground for him to drink out of. They give him sweetened rice on *Holi*, and at *Diwali* sacrifice a white cock to him: and they burn lamps to him on Thursday night. They do not worship any of the other gods except at weddings, and then only after Lal Beg. They also hold a festival in honour of Balashah on the 10th of Jeth, at which they balance on their fingers long poles with bundles of feathers at the top.

Language.

The composite character of the district is exemplified by the various dialects spoken within its boundaries. In the Panipat tahsil the Jats speak a variety of Hindi closely resembling that used by the Jats of the Rohtak district. In the south of Kaithal the dialect is much the same. The domination of the Sikhs in the Thanesar tahsil and the Indri Pargana caused an infusion of Punjabi words, so that the language of those tracts displays a curious mixture of dialects. In the north of the Kaithal tahsil the proximity of the Phulkian States introduces an even larger Punjabi element, until in the Powadh circle nothing but pure Punjabi is met with. Some specimens of the dialect spoken by cultivators in the Nardak—on the whole the most characteristic of the Karnal dialects—were recorded by Mr. Douie when Settlement Officer and are reproduced below :—

CHANNA.

GRAM.

Jis kasan ka lama sama thada
Which farmer of men and material plenty
howe o to bhadve menh channa ka
are, he Bhadon in gram of

badwar par ya
field ploughed in Bhadon for gram, etc., first ploughing or
dosari.
second ploughing
karde he. Asaj ka mahine manh jad
does. Asauj of month in when
mih bars je he tapar ka bij
rain falls seed sown in level field
bokarke tor dosari karde he,
after sowing then second ploughing does
sohaga karara marde hain.
clod-crusher stronger works on
Aur jis ka sama thora hoi
And who of means slender is
o mih barse par sur katke bij
he rain falling on bushes clearing seed
bokarke dosari karde hai.
sowing second ploughing does
Yih mari howe. Bade loganka masla hai.
This inferior is. Some people's proverb is
Channa ne nahin mangi bah
gram the does not want ploughing
Channa ne mangi sah.
gram the wants favourable conditions.
Ath din pichhe channa sirsaun upar
eight days after gram mustard germi-
aje he Channa man sirsaun la lar
nates. gram in mustard putting seeds in a wooden tube
aur khari khari mahra
and spreading seeds by hand mixed
bode hain.
they sow

CHAPTER II.—ECONOMIC.

Section A.—Agriculture.

The seasons.

The agricultural or *fasli* year begins, according to the almanac, at the middle of Chait; but in practice the agricultural year begins with the day after Dasehra, or the 11th of the second half of Jeth, on which date agricultural partnerships are formed for the ensuing year. The year is divided into three equal seasons, the hot season or *karsa* including Phagan, Chait, Baisakh and Jaith; the rains or *chaumasa*, including Sarh, Sawan, Bhadon and Asoj; and the cold season, *siala* or *jada*, including Katik, Mangsir, Poh and Magh. The two harvests are known as *sawani* for the autum or *kharif* crops, and *sarhi*, for the spring or *rabi* crops. Work begins with the first rains or, where irrigation is available, even before that. Maize and cotton are sown, and a little early *jowar* sown and irrigated for the bullocks. As soon as rain falls, the land is ploughed up for the autumn crops. When they are once sown, they do not require very much attention, as most of them are not irrigated at all. But the cultivator is hard at work, ploughing his land for the more valuable spring crops; and it is the amount of labour then expended on the ground that chiefly decides their outturn. When it is too wet to plough, there are the banks and ditches to be looked too, cane to be tied up, and plenty of odd jobs to occupy the time. With the cessation of the rains comes the busiest season of the year. The land has to be finally dressed and sown with the spring crops, and the autumn crops have to be harvested. During the cold weather the irrigation and weeding of the spring crops absorb most of the available labour; but if good Christmas rains (*mahawat*) set the bullocks free from the well, land will then be ploughed for sugarcane, tobacco, and even for the autumn staples. Irrigation is continued almost up to the spring harvest which generally comes with a rush, all the crops ripening almost at once; and labour at this season often fetches extraordinary prices. When the spring crops are fairly garnered, little can be done beyond finishing up the tobacco, watering the cane, sowing early maize and *jowar* for the cattle, and getting in the maize and cotton, and even this can only be done where irrigation is available. Consequently this is a season of comparative leisure; and the people occupy themselves, the stars permitting, in marrying themselves and their neighbours.

The weather.

The east or cold damp wind (*parwa*) is the abomination of the cultivator. It breeds, especially when the weather is cloudy and the ground wet, all sorts of pests and diseases, animal and vegetable; and the only point in its favour is that it does not

CHAP. II A. — Agriculture. — The weather.

dry the land and shrivel up the plants, as the fierce west wind will do, and that it is often the precursor of rain. It is specially obnoxious when the pollen is ripe and the grains forming, or about Asoj and Phagan. The west or hot dry wind (*pachwa*), on the other hand, if it is not too strong, is hardly ever unwelcome so long as there is plenty of rain; for it does no harm beyond drying things up. It is especially desirable when the plants are young, as it forces them on; and again when the grain is forming; and again when the crops are ripe; but if too strong or too hot, it is called *jhol*, and blows the pollen, shrivels up the grain, and blows down the plants; while in autumn it dries up the moisture upon which the spring sowings depend. After the spring crops the fiery hot wind cannot be too fierce or too continuous, as it dries the grain and makes winnowing easy, and, best of all, it presages a good rainy season. Rain can hardly be too plentiful, in the autumn, at any rate, till the pollen forms. While that is ripening, rain washes it off and does much harm; and again when the grain is ripening rain rots it and diminishes the yield. But the injury is reduced to a minimum if a good west wind is blowing. And rain, after the crops are cut, is especially injurious, as the produce rots on the ground; and even if the grain is saved at the expense of straw, the cattle suffer from want of fodder. The ideal season is one in which rain falls early, so as to allow the autumn crops to be sown over a large area; and falls in sufficient quantity at the end of the rains, so as to leave the ground moist for the spring sowings.

Seed time and harvest.

The approximate sowing and harvest times are given below. These are ordinary times. In an exceptional season the sowing may be further delayed a fortnight or even more, but to the injury of the produce :—

Staple.	SEED TIME.		HARVEST.		REMARKS.
	From	To	From	To	
Cotton	1st June ...	15th July ..	10th October	15th November	
Maize	15th „ ...	Do. ...	15th September	15th October	
Coarse rice ...	15th „ ...	Do. ...	5th „	5th „	
Bajra	15th „ ...	Do. ...	20th „	20th „	
Jowar	1st July ...	5th August ...	20th October ..	20th November.	
Gram	1st September	10th October ...	1st April ...	15th April.	
Wheat	20th „	1st November	15th „ ...	30th „	
Barley or mixture of wheat, gram and barley.	1st October ...	1st December	1st April ...	15th „	

CHAP. II. A. Agriculture.

Seed time and harvest.

For the *kharif* crops rain is most needed in June and the first week of July and it cannot be too plentiful. They are also greatly dependent upon the rains in the end of July and first half of August. If it is either too plentiful or too scanty, it injures the crops. Too much rain at the end of September also hurts the crops, as it washes off the pollen from the flowers. For the *rabi* crops rain is most needed in Bhadon (15th August to 15th September) and first half of Asoj (rest of September), when it can hardly be too plentiful; good rain in December and January is also most beneficial. Rain after the first week of March is injurious. In both crops rain at harvest time does infinite damage, as the grain when cut lies in the fields for weeks, and both it and the straw are liable to damage from wet.

Rainfall.

The averages recorded at the tahsil rain-gauges for the last 28 years show roughly the distribution of the rainfall :—

	SUMMER. *April to September.*	WINTER. *October to March.*	TOTAL.
Thanesar ...	25·02	4·29	29·31
Karnal ...	27·33	3·87	31·2
Panipat ...	22·19	3·19	25·88
Kaithal ...	15·56	3·63	19·19
Ghula ...	16·06	3·65	18·71

The advantage of the Khadir and the Bangar tracts, on the borders of which the three first gauges are situated, is sufficiently apparent. There is a marked and sudden diminution of the rainfall as soon as the stiff soil of the Chachra and Nardak tracts are reached. The natural state of this region is extremely precarious, and until the recent extensions of the Western Jumna Canal it was one of the most insecure in the province. The Bangar of Kaithal, especially in the southern villages, is fortunate in possessing a lighter soil where a crop may be raised with far less rain than in the Nardak.

It must not be forgotten that the success of the canal crop depends very largely on the rainfall. The *kharif* of 1905 and the *rabi* of 1908 are striking, but by no means solitary examples, of the failure of canal water as at present distributed to mature a crop when the rainfall is unfavourable.

CHAP. II. A.

Agriculture.

The method of well-sinking and the religious ceremonies which accompany it are described in paragraphs 404-407 of Mr. Ibbetson's Settlement Report.

Well-sinking.

Unbricked wells.

In the Indri and Thanesar Khadir unbricked wells are made by digging out the sand and lining the lower part, which is of greater diameter than the upper, with a covering (*jhal* of woven withies of *jhao* or *simbhalu* or *tunt*. They are made in a few days, and at a cost of Rs. 5 to 10, spent in buying the lining, and feeding the friends who come to help in the digging after water is reached, which must be hurried on. They fall in during the next rainy season.

The best well irrigation is found in the Panipat Khadir. Owing to the proximity of the Jumna and the canal escape which runs through the northern villages the water-level in more than half the circle ranges from 12 feet or less to 18 feet below the surface. With an expenditure of 4 or 5 rupees and some *gur* to the labourers a well can be dug which, lined with brushwood, will irrigate some twelve acres and last for three or four years If the water supply is satisfactory the well can be lined with the large bricks described by Mr. Ibbetson in paragraph 407 of the Karnal Settlement Report. He says :—

"Of late years a new kind of brick has been introduced. It is very long and broad and thin and forms a small segment of an annular disc. ... Wells are made of a single thickness of these built up dry without mortar. They are cheap, a well built of them costing not more than a third as much as a good brick and mortar well. But it will not last long, while the other will last at any rate 60 or 70 years ; probably more."

An ordinary brick and mortar well can be sunk for Rs. 400 or 500, exclusive of the labour provided by the owner. A lining of large bricks will only cost Rs. 150 to 200.

Well-gear.

The driving gear in a Persian wheel will cost some Rs. 15, and lasts 6 or 8 years. The lanthorn wheel and subsidiaries cost about Rs. 10 more, and only last about a year. The *mal* or rope ladder, on which the earthen pots (*tindar*), which raise the water, are fastened, is made at home, always of *dab*, which resists the action of water better than any other fibre. The whole gear is said to include 360 separate pieces of wood, which enjoy some 70 or 80 separate names among them.

The leather bucket (*charas* in a *charas* well) consists of a buffalo hide bag swung from an iron ring and handle (*mandal*).

CHAP. II. A.

Agriculture.

Well-gear.

It is drawn up by a strong rope (*lao*) made of *san* fibre, and passing over a small strong wheel (*bhon* or *chak*) fixed over the well. The oxen who draw it run down an inclined plane (*gaun*) dug out by the side of the well, the driver sitting on the rope to bring the strain more horizontal, and return by a less steep incline parallel to it. When the bucket reaches the top, the man who stands at the mouth of the well seizes the rope and pulls the bucket on to a masonry platform (*panhar*) on which he stands. He then bids the driver unloose the rope. This releases the bag, which collapses, and the water shoots into the cistern (*parcha*). The empty bucket is then flung into the well, the rope being held under the foot to prevent it falling too quickly. When the oxen reach the top, the rope is fastened on again, and the operation recommences. The directions to the driver, intermixed with prayers for protection, are delivered in a song, the cadences of which the bullocks soon learn to recognize, and stop, turn, and start of their own accord at the proper moment. The work at the well mouth is very dangerous, as any mistake will precipitate the man into the well. The bucket costs Rs. 10 and lasts a year, the iron ring and wheel Rs 3 each. The *lao* is made at home. The bucket will lift 320 to 400 pounds of water each time, and there is no waste The *charas* well is worked at a much greater cost of labour, but it is a much more efficient means of irrigation than the Persian wheel. For irrigating with the bucket five men are needed ; two men to catch the bucket *bairia* or *barewala* (from *bara*, bucket), working half a day each, as the labour is very severe ; two drivers, *khambi* or *kilia* (from *kili*, the peg, which fastens the *lao* to the yoke) and one *paniara* to look after the channels and let the water successively into the irrigation beds. There should also be four yoke of oxen, two working at once, one coming up while the other goes down the incline, and changing at noon. The well is worked from dawn till sunset, with 3 hours' rest in the hot weather. Four yoke of oxen will water 3 to 4 acres in five days according to the depth of the well ; two yoke will water 2½ to 3 acres in the same time.

The labour at the Persian wheel is much easier, as expressed by the saying "*Harat ek ankh se chalta,*" "one eye is enough for a *harat*"; for the driver (*gaderia*), who sits on the beam to which the yoke is tied, may be blind and the *paniara* only needs one eye. But of course a man for grass is needed. It is better to have four yoke of oxen to change every three hours, as the rotary motion soon tires the bullocks, but there

CHAP. II. A.

Agriculture.

are very generally only two. A Persian wheel will water 3 acres of land in five days, and a good deal less if the soil is very sandy.

Well-gear.

Wells are seldom the property of a single person. The sharers irrigate in turn for a day or half a day each, according to a *rota* (*bari, osra*) fixed by lot.

Abi irrigation.

Irrigation from tanks, classed in crop returns as *abi*, is practised to a small extent, especially in the Nardak. The method is the same as is followed in canal irrigation by lift.

Watering from tanks is mainly used as an auxiliary to irrigation from wells situated in the homestead lands. A *zamindar* is loth to put up his well-gear in the hot weather, and if the rains are good, the maize will ripen without artificial irrigation, and one watering from the tank will be sufficient to mature the cotton. The *toria*, which is sown in October and ripens in January, is often tank-watered, and in a bad year the land to be sown with wheat gets a preliminary watering from the tank. In the Nardak, where this form of irrigation is most common, there are some large depressions which are filled with water in the rains, round the borders of which rice crops are sown, and watered, if necessary, by lift.

A curious kind of *abi* irrigation is practised on the Ghagar and its tributaries whose channels are far below the surface of the surrounding country. Wells, sometimes lined with masonry and sometimes *kachcha*, are dug near the river bank, and carried down to a lower level than its bed. In the case of masonry wells the face of the cylinder is exposed on the river side, and low down in it an arch or *jharokha* is built A channel from the river leads water into the wells through this arch, and in the cold weather a small *band* is sometimes thrown across the bed of the stream to hold up the water. Such wells are usually worked by the rope and bucket. This *abi* irrigation was formerly of more importance than it is now. It is at best precarious and has become more difficult as the channel of the Ghagar has become deeper.

Canal irrigation.

The water passes from the canal by a head (*mohand*) into the main distributaries (*rajbaha*). From them it is distributed by small channels (*khand, khal*) to the fields. Each main channel supplies many villages, and each village has its turn of so many days. Irrigation from the canal is practised in two ways. If the water is delivered above the level of the fields, the irrigation is called *tor*, or flow; if below them, *dal* or lift. In flow irrigation all that is needed is to cut a hole (*naka*) in the channel

CHAP. II. A.

Agriculture.

Canal irrigation.

and let the water on to the field. The area that can be irrigated in this manner in five days is only limited by the supply of water: one good opening will water 30 to 50 acres. Irrigation by lift is practised thus. The water is brought up by a low-level channel which is met by a high level channel into which the water has to be lifted. The end of the lower channel is enlarged and a small pool (*chuhi*) dug out: on either side of this standing places (*penta*) are dug in the banks. The end of the higher channel is also enlarged into a basin (*nyani*) which is cushioned with grass to prevent the falling water from scouring. Two men called *dalia* then stand one in each *penta*, and swing between them the *dal* or scoop. This is in the shape of a small canoe, and is made of thin planks of *dhak* wood sewn together, with leather, costs 8 annas and lasts a year. It is swung by four strings, two at each end on either side of the point. The *dalias* take a string in each hand and swing the scoop, dip into the water, swing it out full of water up and over the *nyani*, and tip the water out by tightening the upper strings. The operation is performed with wonderful skill, but the labour is very severe, and a man can only work for an hour consecutively at it, and cannot work two days running. The outside height of the *mathik* or bank over which the water is to be lifted is 4½ feet; if the total lift is greater two lifts are used, one above the other. It takes four *dalias* and one *paniara* to work a *dal*, and they will water 3 to 5 acres in five days according to the height of the lift.

Agricultural implements and appliances.

Agricultural work is generally done by oxen, but male buffaloes are now frequently yoked in carts, but are sometimes used for the plough. In the light soil of the Khadir, with water near the surface, small cattle, costing Rs. 20 to 25 each, will do all that is needed. But for the stiffer soil of the Bangar plough cattle now cost Rs. 60 to Rs. 80 each, while oxen, that can do a full day's work on the deep wells of the Nardak, cannot be got under Rs. 100 or Rs. 120 each. An ox begins work when rising 4, and works for 10 years. For a bucket well eight oxen is the full complement; for a Persian wheel, four. A plough is now always reckoned at two bullocks. It used to be reckoned at four; the change is due to the greater sub-division of land owing to increased population, as many of the agricultural accounts are kept by ploughs.

Fodder.

Fodder in general is called *nira*. The fodder of the autumn crops consists of the stalks of the great millets and of maize, which are carefully stacked on end in a stack called *chhor*; of rice straw which is merely piled up in a heep (*kunjra*); and of

CHAP. II. A.

Agriculture.

Fodder.

the *bhus*, or broken straw left after thrashing of the pulses. The spring crops give *bhus* only, also called *turi* if of wheat or barley. *Bhus* is stored in a *kup* made of a wisp of straw *(thanda)* wound spirally round and round upon a foundation of cotton stems so as to form a high circular receptacle in which the *bhus* is packed and preserved and thatched when full. A long low stack fenced in by cotton stems alone is called a *chhan* or *bhusari*. Near the city the people store their *bhus* in mud receptacles (*khuta*) and plaster it all round the top. The *bhus* is taken out from a hole at the bottom as wanted. Stems of millet and maize are chopped up into small pieces (*sani* or *kuti*) before being given to the cattle. An ox during ordinary work will eat 20 sers of grass and a *ser* of grain daily ; if working at the sugar-mill or well bucket, nearly twice that. The cost of stall-feeding may be taken at about 4 annas a day. Of course the fodder varies according to the season. The mass of it consists of grass and straw of cereals ; a little pulse straw is always added and green food when obtainable. In the cold weather *methi* and rape and carrots, and at all times the weedings, are given to the cattle. Besides this some cotton seed or oil-cake, or either *gwara*, *moth*, or gram, is daily given. The best fodder of all is the straw of the small pulses, and is called *missa ;* after that of wheat and barley, called *turi ;* after that the *jowar* stems or *chari*. *Bajra* stems are seldom given alone. They are chopped and mixed with one-third of *mung* fodder, or failing that, with some oil-cake (*khal*) or pea-meal of gram. In famines the cattle will eat almost anything. The sacred pipals are stripped and even the thorny *hins* is cut up and given to the starving beasts. Where sugarcane is grown it is cut green to keep the bullocks alive. In Kaithal although *bajri* stalks furnish but poor fodder, the Jat of the southern Bangar is too hard pressed for food for his cattle to throw them away, and *bajri* ricks, often blackened with age, scattered here and there about the fields, are a curious feature in some Bangar estates. Such ricks are kept even for six or seven years, if the occurrence of severe drought does not cause them to disappear sooner.

Manure.

The dung heap (*kurri*) is started when the rains are over. A great hole is dug in the ground, and straw, cattle bedding, sweepings of horse and cattle sheds, and all sorts of refuse, are thrown into it. During the rains the cow dung is too wet to be patted up into fuel cakes and is all thrown on to the heap. The rain is allowed to fall freely upon it, and it is periodically turned over and worked up by the sweepers. As soon as the rains are

CHAP. II. A.

Agriculture.

Manure.

over, it is fit for use. It is taken to the field in carts, sprinkled by the sweepers, and ploughed in. Manure proper (*khar* or *khat kurra*) is not very often used as a top-dressing. But the market gardeners largely use the nitrous efflorescence (*rehi*) found about the village homesteads as a top-dressing for young wheat. The similarity of the name has led to statement that the injurious saline efflorescence or *reh* which covers so much of the country is used for manure. This is not the case in Karnal. *Reh* consists chiefly of sulphates, and is injurious; *rehi* of nitrates, which, of course, are the best of manures. Weeds, grass, and plant stems, and roots which cannot be used as fodder, are generally burnt on the fields and the ashes ploughed in. The great object of the cultivator is to get enough manure for his sugarcane. After that, what is over is divided between fine rice, cotton, maize, and the best wheat land; but these crops, excepting rice, are often sown after sugarcane, when no fresh manure is given. In the Nardak manure is little used on the unirrigated land, as the people say truly that in the stiff soil with a scanty rainfall it only burns up the plants.

After more than 15 years of canal irrigation one might expect that the Kaithal farmer would have learnt to utilize manure, or have devised some principles of rotation. But holdings are large and the soil is still supposed to be fresh and full of strength. Heaps of farm refuse are still piled round the village site, while there is ample evidence, admitted by the owners themselves, that the older fields are showing signs of exhaustion. Hitherto the *zamindar* has been content to increase the area under the plough, and to blame the Canal Department when the unmanured and carelessly weeded fields display a diminished outturn. Great as has been the change wrought by the canal, the agriculture of the Kaithal uplands will undergo a still more important revolution when the pressure on the soil brings home to the people the necessity for intensive cultivation. At present even sugarcane is sometimes grown without manure and the plants frequently get no manure before sowing, though a top-dressing is usually given when the young shoots begin to appear. Wheat and cotton as often as not are left unmanured. Compared with the careful tillage of Panipat, the canal irrigation of Kaithal presents an unkempt and neglected appearance.

The plough and minor agricultural implements.

A description of the plough used in Karnal and of the minor agricultural implements as well as full account of agricultural operations from the ploughing of the land to the measuring out of the grain will be found in paragraphs 413, 414, 424-436 of **Mr. Ibbetson's Settlement Report.**

CHAP. II. A.

Agriculture.

Diseases and enemies of plants.

Many of the evils to which plants are subject are peculiar to particular staples, and are noticed in their places below. But a few are very common :—

Pala or frost is very injurious if severe and not accompanied by rain, or if a west wind blows at the time. There is a saying *girta mih pacheta pala ; yih kirsan ka gala :* "a tardy rain and frost are the husbandman's loss." It specially attacks cotton, sugarcane, gram, rape, and early wheat while in the ear.

Kag, kagwa, or smut is produced by east winds with cloudy damp weather. It attacks wheat especially, and also *jowar* and sometimes barley. But it is, as a rule, sporadic in the two latter.

Al or *ala* is a black oily appearance upon the leaves of cotton and sugarcane. But it is also the name of a gregarious caterpillar, which especially attacks cotton, rape and seasame.

Kungi or rust is produced by the same influences which produce smut. It attacks wheat chiefly, and is exceedingly destructive.

Jackals do most harm to maize, of which they "do not leave even the bones" and to sugarcane. They also eat *methi* and safflower.

Pigs are catholic in their taste ; but if they have a preference, it is for rice, *jowar*, maize and cane

White ants eat most things, especially gram, cotton and cane. They cannot move in *dakar* as it is too stiff and moist for them ; and plenty of water will keep them away.

Ujala or general withering up from any reason, and *sokha* or withering up from want of water, are of course evils common to all plants.

Cultivation of *barani* lands.

Purely *kharif* cultivation is chiefly found in the case of *kalar dahr*. By far the greater part of the rice land is of this description. In a year in which the rainfall is seasonable and abundant, a crop of coarse *santhi* rice can be raised, but the soil is too poor and stiff to yield a spring crop.

There is also some very sandy soil in the Khadir, and some high land off which rain water drains rapidly in all the assessment circles, in which only inferior autumn crops, such as *chari*,

CHAP. II. A.

Agriculture.

Cultivation of *barani* lands.

bajra and *moth* can be grown. Such high land is locally known as *thali*. It is less usual to find land which is only cultivated in the *rabi* harvest. This system is chiefly followed in the case of land which lies so low as to be usually under water in the rains, and there is little of this description, except in the Khadir.

Three-fourths of the *barani* land is of the kind known as *magra*. The people have learned that where the *magra* is at all level, the most profitable method of farming is to put in a spring crop in the end of one agricultural year, and an autumn crop in the beginning of the next, after which the soil is given a year's rest. There are obvious advantages in adopting this system. After the *kharif* harvests, the land is exhausted by the fact that it has borne two crops in succession, and it is also, as the result of the rains, overgrown with grass and weeds. Besides the pulses, *chari* and *jowar*, raised on unirrigated land, are not reaped until the season for sowing gram is past. An industrious man ploughs the land as soon as rain falls in January, eradicating the weeds and exposing the soil to the air. If the spring crop to be raised is gram the land will not be ploughed again till July, and possibly not till September. The gram is sown in land which has recovered its strength and is tolerably free from weeds. The growth of weeds and grass in the cold weather is insignificant, and the *chari* which succeeds the gram is also grown in comparatively clean soil.

Outside the Khadir Circle the wells are classed as *gora* or homestead wells, and *jungal* or outlying wells. The former are those situated in the lands immediately surrounding the village. One reason for the fertility of such land is well known. But, besides, in these two circles, all the manure is expended on the homestead fields. The cultivation is, therefore, to a large extent, *dofasli*. Where the people are very industrious, and manure is plentiful, one finds double-cropping all over the area watered from the *gora* wells. If the supply of manure is limited, the *dofasli* area is less. As a rule, the inner belt of the *gora* lands is usually *dofasli*, while the outer belt is mainly *ek-fasli*. Where the Bangar cultivator intends to take a double crop, he ordinarily puts in maize in June, manuring the fields heavily. This manure is intended to benefit both the autumn and spring crops. Indeed its effect on the latter is probably greater than on the former. As much as 600 or 700 maunds of manure per acre is sometimes put in, but usually half this quantity is considered sufficient. Maize in the Bangar is generally followed by barley or carrots; or, where the tillage is somewhat inferior, by a mixed

CHAP. II. A.

Agriculture.

Cultivation of *barani* lands.

crop of gram and *toria*. In the best Bangar villages, and almost universally in the Nardak, wheat follows maize. In the outer *gora* fields, wheat is often cultivated as the sole crop of the year, or wheat is followed by cotton, and the land allowed a year's fallow after the cotton has been picked. In all but the very best Bangar estates, the *gora* lands are mainly devoted to raising the food of the cultivator. It is different in the Nardak, where there are fewer outlying wells on which to grow the revenue-paying crops, and where the character of the soil favours the cultivation of wheat. The Nardak *gora chahi* cultivation, except in the villages in the north-east of the circle, is inferior to that in the Bangar. In the south maize is sown as an unirrigated crop on the homestead well lands, and in these circumstances manure would be harmful, and is not used. Nor is the irrigated wheat which follows the maize manured.

The outlying or *jungal* wells are cultivated on the *ek-fasli* system. The lands attached to them are not manured. The object of the *zamindar* is to raise as much wheat as possible upon these wells; but experience has taught him that, even though the land is not cropped in the autumn harvest, it is impossible to put in wheat more than twice in succession without exhausting the soil. Provided the land is treated properly, the produce of the unmanured wheat on the outlying wells is supposed to be superior to that of manured wheat grown in the homestead fields. In order to restore the quality of the land, unirrigated gram is substituted for wheat in the second or third year, or the wheat is followed immediately by cotton, *urd*, or *chari*, and the land is left for a year, after which it is again sown.

It is the cultivator's object not to be compelled to work these wells in the autumn harvest. If he is lucky, even the cotton will ripen without artificial irrigation. The area attached to the well is often far larger than can be watered in any one year, and a considerable part of it will be found in any particular harvest under dry crops.

In the Thanesar and Indri Khadir manuring is not confined to homestead fields or even to irrigated lands. Manure is carried out much further from the village site than in the upland villages. In the south of Indri Khadir Circle however the system of tillage is more like that prevailing in the Bangar. This becomes increasingly evident when the Bangar of the old Karnal Pargana is passed. In the Khadir of the Karnal Pargana and

CHAP. II. A.

Agriculture.

Cultivation of *barani* lands.

Panipat either because there is less moisture from the canal or because the inhabitants are superior in energy and resources to those of the Indri Khadir, the wells are worked far harder. While in Indri the cultivator relies for his autumn crop on the rain and moisture afforded by the canal, the wells in Karnal and Panipat are worked to supply irrigation for cotton sowings in May and June and a little *jowar* for the bullocks will be sown in the irrigated land. Sugarcane and the valuable garden crops of Karnal and Panipat town receive attention from the wells throughout the season.

Sugarcane.

The principal varieties sown are *surta* or *sotha*, with a long, soft, thick, white cane; the best of all, but somewhat delicate, and especially fancied by jackals *Lalri*, with a hard, thin, red cane; very hardy, and will not spoil even if the cutting be long delayed, but not very productive of juice. *Merathi*, with a thick, short, soft cane and broad leaves: it is very productive but requires high cultivation, and suffers from excess of rain: it is not much grown *Paunda*, a thick sweet variety; grown near the cities for eating only, as its juice is inferior. Cane grows best in fairly stiff loam, and worst in the sandy soil. It likes abundant rain and will stand a good deal of swamping, though too much makes the juice thin. It is occasionally grown in flooded land without irrigation, but the yield is poor and precarious. Its cultivation is far more laborious than that of any other staple. The land must be ploughed at least ten times, and worked up to the finest possible condition. The *zamindars* say:—*Gehun bisi, ikh tisi, i.e.*, plough wheat 20, and cane 30 times; but that is a counsel of perfection. The more manure given the better the yield; and it is never sown without. If the soil is impregnated with *reh*, the juice becomes watery and yields but little sugar. Cane is occasionally grown a second year from the old roots and is then called *munda*. The yield is inferior. A full account of the cultivation of cane and the manufacture of *gur* is given in paragraphs 444-447 of Mr. Ibbetson's Settlement Report.

Young sugarcane is attacked, when about a foot high, by a worm called *kansua*, especially if the east wind blows. A smut called *al* also attacks it under the same circumstances. Mice do much harm, and also white ants and frost. The *kolhu* or native sugar mill has now been superseded by the Behea mill with iron rollers.

Cotton.

No varieties of cotton are recognized by the people. It grows in stiff loam, worst in sandy soil. It is better,

CHAP. II. A.

Agriculture.

Cotton.

if possible, to grow it by the aid of rain alone and without irrigation after sowing at any rate till the rains are over. The more manure the better; but it often follows sugar, when no fresh manure is given; and in the Nardak it is grown without manure. As it can be grown without manure, it is favourite crop on outlying (*jungal*) wells. On the canal it is sown a full month earlier than elsewhere as the ample supply of water enables the cultivator to make the land moist enough before sowing to carry it through till the rains. The ground is ploughed twice and the *sohaga* used; the seeds are rubbed in cow-dung to prevent their sticking together and sown broadcast. When the two seed leaves appear it is weeded, and twice again after that; the saying being—

Naulai nahin dopatti,
Kya chugaoge kupatti.

"If you don't weed when there are two leaves, you will pick nothing."

When it begins to flower it especially wants water, which must be given if necessary; for if it dries, and especially if the east wind blows at the same time, the flowers fall off and the pods don't form. It generally gets watered again with the other crops which are sown among the plants.

The picking is done gradually as the pods open. It is performed by the women of the house when they are not secluded; otherwise by the poor women of the village who take one-twelfth of the pickings in the ealier pickings when there is plenty of cotton, and more, up to one-fifth, as less and less remains to pick. The last gleanings are left for the poor. The cotton as picked is called *kapas*, and is passed through a small hand-mill (*charkhi*), consisting of a wooden roller revolving in contact with a very small iron roller, the latter nipping the cotton and drawing it through and so tearing it off the seeds (*binola*) which are left on the other side. The *kapas* consists of about a third cotton and two-thirds seeds. The cotton thus ginned (*rui*) is scutched (*pinna, dhunkana*) by the *pumba* or *teli* with a large double stringed bow (*pinan, dhunaka*) hung from a flexible bamboo, the strings of which he twangs violently with a heavy plectrum of wood (*tara*) and the vibrations toss up the filaments and form them into a fleece, leaving the dirt at the bottom. For this he takes the weight of the cotton in grain. The women spin the cotton and give it to the weaver to weave, paying him one rupee for weaving about 60 yards. This village industry, however, is declining as more and more cotton finds its way to the cotton

CHAP. II. A.

Agriculture.

Cotton.

ginning factories at Panipat, Karnal, Kaithal and other centres. The *kapas* is bought in the villages by agents of the factories who occasionally enter into forward transactions with the *zamindars* to supply so much *kapas* at a fixed rate. After the cotton is picked, the cattle are turned into the fields to eat the leaves and dried stems (*bansati, banchatti*) are cut down and used as withies for various purposes, or for fuel. The seeds are a valuable food for cattle, as they are very full of oil. Cotton is especially liable to the *al* smut, and to attacks of caterpillars, and of a red worm in the pod.

Maize.

Two sorts of maize are grown—the *pili* or early yellow maize, and *dhauli* or late white maize. The former has the better grain, and the latter is the more valuable and ripens fifteen days later. Maize must have plenty of water and must have at any rate a little fresh manure, even if sown after sugar-cane. It grows best in light soils and well in sandy ones. It will not grow in very stiff soil. The ground is carefully dressed and the seed sown broadcast. It is weeded on the 10th, 22nd, and 35th day after sowing, or thereabouts. It cannot go a month, and should not go more than three weeks, without water; and it is only in good years that it need not be irrigated If it once dries up, no after watering will save it. A little early maize is often grown as fodder for the cattle; it produces hardly any grain. The maize is cut down and the cobs (*kukri*) picked off, stripped, dried in the sun, and beaten with sticks to separate the grain. The unripe cobs (*bhuta*) are often roasted and eaten. The stalks (*karbi*) are good fodder, though not good as *jowar*. Maize suffers from a worm in the knot of the stalk, and especially from pigs and jackals. In Indri maize is an important crop on well and *sailab* lands. In Kaithal its cultivation is mostly confined to well lands in the Powad, but a little is grown on *chahi* lands in the Bangar and Naili circles of Pehowa.

Fine rice.

Rices are divided into two well-defined classes.—the fine rices, varieties of *oryza sativa*, the grains of which cook separate, and which are known to the people under the generic name of *ziri;* and the coarse rices, varieties of *oryza glutinosa*, the grains of which agglutinate when boiled, and of which the principal sorts are *mun,i* and *santhi*. The *ziri* proper is a small rice with a short straw; the principal varieties are *rumali* and *ramjamni*, the latter of which has a particularly hard fine grain. *Sunkar* and *ansari* are coarser rices, chiefly grown where there is fear of too much water, in which case their

CHAP. II. A.

Agriculture.

Fine rice.

long straw gives them an advantage. Rice grows only in stiff soil. It is usually grown in lowlying *dakar* so as to take advantage of the drainage water; but if the water supply is sufficient, the best rice is grown on fine stiff soil on a slope where the water is perfectly under control. The seed beds are ploughed four or five times and carefully prepared, manure is spread on them, and the seed sown broadcast and very thickly on the top of the manure. More manure is then spread over the seeds, and the whole is watered. Four days after they are again watered, and after the fifth or sixth day, they must be kept wet till they are ready to plant out. The rice field is ploughed twice, and such manure given as can be spared. It is then flushed with some three inches of water, and a *sohaga*, toothed if there are weeds, is driven about under water (*garh* or *gahan dena*). If the weeds are obstinate, the plough must be used again under water. When the *sohaga* has worked up the mud into a fine slush, Jhinwars and Chamars take the seedling (*pedh*) in handfuls (*juti*) and plant them one by one in the water pressing in the roots with their thumbs. An acre will take 500 to 600 *jutis* which will cost, if bought, Re 1-4-0. It will take ten men to plant it in a day, and they get 2½ to 3 *sers* of grain each daily. The field is weeded once at least. At first the whole field must be kept under water continuously; for each seedling throws out five to ten new shoots, which cannot make their way unless the ground is pulpy, and it is on the abundance of these shoots that the crop depends. The water must not be more than 6 inches deep, or the shoots will be drowned before they get to the air, and it must not be changed, as it would carry away all the strength of the manure and the soil. When the ears once begin to form, the ground must be kept well wetted, but not too slushy, or the plants will fall. If the crop is wholly under water for more than four days, it dies. The reaping must be done directly the grain is ripe, or it will fall out of the ears into the water. Thus hired labour is a necessity, and the payment is 5 or 6 *sers* of unhusked rice. If the water is deep and the plants, as cut, have to be put on bedsteads to keep them out of the water, the reaping is slow: otherwise the same as with other small cereals.

The rice is thrashed in the ordinary manner, but the grain has to be husked. Standing rice is called *dhan*, as is the unhusked grain, in contra-distinction to husked, *chawal*. The husking is generally done by the women of the house. If done by a labourer, he returns 18 *sers* of *chawal* from every 30 *sers* of *dhan*, keeping

CHAP. II. A.

Agriculture.

Fine rice.

about 2 *sers* of good rice and as much of broken bits which he will grind up and eat as bread. The rest is husk, which is useless. The straw (*parali*) is very poor fodder, and is used largely for bedding for cattle, and for mixing with manure, or is even ploughed in fresh. But it is also given to cattle to eat. Rice suffers much from *khad* or *kokli*, apparently aquatic larvæ or other animals that eat the young sprouts. Water birds, too, play terrible havoc with it when it is ripening If the whole plant dries up, it is called *malain;* if the grain only, *pa'as* is what is the matter with it.

Coarse rice.

Coarse rice is of three kinds,—*chalaka*, *munji* or *dhaulu*, and *santhi*. *Chalaka* is grown to some extent in the Naili. It is an intermediate variety between *ziri* and ordinary coarse rice, has a white grain with a broad husk of a purplish red colour at the tip, and a longish beard of the same colour. The peculiarity of *dhaulu* is that it cannot be drowned out, the straw lengthening as the water deepens. It is therefore sown in spots liable to flooding It will stand two feet deep of water; and if the ripe plant falls into the water, the grains do not fall out as they do with *ziri*. It has a larger grain than *santhi*, from which it is also distinguished by the fact that the grain stalk, when the seed is ripe, separates itself from the sheath. The grain of *santhi* has a black husk, and ripens within the sheath. It is sown in Harh, earlier than any of the other kinds, and its peculiarity is that it ripens within an extraordinarily short time, nominally 60 days (hence its name) from the sowing. It is sown all over the Nardak, and generally wherever there is no irrigation, as the rains will usually last long enough to ripen it. Huen Tsang noticed its quick growth with admiration when he visited the Nardak 1,500 years ago. *Santhi* has a short straw and does with but little water, it being sufficient if the soil is thoroughly moist after the shoots are once up. The young shoots are liable to be eaten, and if the water gets very hot they will sometimes rot; but the plant is wonderfully hardy, and when the stalks have once grown up, hardly anything hurts it. Both *dhaulu* and *santhi* are sown at once where they are to grow. After one or two ploughings cattle are sent in to the water to walk about and stir up the mud or the *gahan* or toothed *sohaga* is used under water. The seed is sown broadcast on the *gadal* or fine mud. No manure is used nor is the crop irrigated. The *parali* or straw is better fodder than that of *ziri*, but still not good. The coarse rice forms a staple food of the people, the fine rices being sold and seldom eaten by them.

CHAP. II. A.

Agriculture.

Jowar and *Chari.*

There are two varieties of *jowar*,—the *pili* or *alupuri*, which gives a sweet large grain, but is delicate, and the *daul*, which is very hardy. *Jowar* grows best in medium loam, and is not grown at all in very sandy soil. It is seldom either manured or irrigated, but it is grown on well-land in the Andarwar Circle of Kaithal and watered, if necessary. Throughout the Kaithal tahsil it is a very important crop and is usually grown for grain mixed with *urd*. The land is ploughed two or three times, and, if very dry, a *sohaga* is passed over it. The seed is sown broadcast, if grain is wanted, very sparsely (*chhida*), the plants growing large and strong, and yielding fine heads of grain; if fodder is the object, very thickly (*sanghni*), the plants growing together with thin stalks, giving little grain, but an immense deal of fine sweet fodder. If sown for grain it is weeded once at least twice, if possible; and small pulses are often sown with it. When the crop is cut, the heads (*tasri*) are picked off and the stalks (*chari*) stacked for fodder. The finest heads are selected for seed and thrashed with sticks, and the others thrashed in the ordinary way. The seed heads are covered with a down which irritates the legs of the labourers. If the fodder crop in any field is very inferior, from late sowing or scanty rains, it is cut green, and is then called *chib*. *Jowar* suffers from worms in the *gala* or bud; and a worm also eats the stalk, which then turns red and hollow inside, and no grain forms. But the plant is exceedingly hardy; and if there is plenty of rain, hardly anything hurts it. It is said to exhaust the soil more than most other crops. Most of the bread eaten by the people during the cold weather is made of *jowar* flour.

Bajra.

Bajra is little grown in Panipat or Karnal, but is after *jowar* and gram the most important unirrigated staple in the Kaithal tahsil, where it is usually sown mixed with *mung*. In the Andarwar Circle it is often grown on well lands. It thrives best in sandy loam such as is found in the south-west of the Kaithal Bangar. It is sown much earlier than *jowar*. The mode of cultivation is just the same as for *jowar*; but it is always sown exceedingly sparsely, and some small pulse is generally sown with it and grows between the plants. The stalks are called *dandar*, and are poor fodder compared with *chari*. In the Bangar villages of Kaithal, however, the *bajra* stalks are carefully stacked and are sometimes preserved for years, and are given to the cattle chopped up with green fodder, or even with the *ata* of gram. If rain falls on the flower (*bur*) it washes the pollen off; but hardly anything else affects it.

CHAP. II. A.

Agriculture.

Mandwa.

No varieties are recognised. It is grown in fairly stiff soil, but chiefly in the Khadir and there only in small quantities. It is sown in seed beds carefully dressed and manured. The seedlings are then planted out in land which has been twice ploughed and dressed with the *sohaga*. It is watered once, or twice if the rains are late, and weeded once. The heads ripen slowly and the ripe heads are picked off and the grain beaten out. The *bhus* is very bad fodder, and is generally burnt as it stands, or grazed down. The flour is used for bread, but is very indigestible; but it has the advantage that it may be eaten on fast days, as it is plucked, not reaped like other cultivated cereals. It is the *ragi* of southern India. In dry seasons its cultivation as a food crop is largely increased, it being put in fields intended for *ziri* which cannot be planted out owing to the drought.

The *kharif* pulses.

It is very difficult to state with any accuracy what the area under the *kharif* pulses is, as they are usually sown with *jowar*, *chari*, or *baira*. In the Kaithal Powad, however, *moth* is commonly sown alone. It is sown in light or sandy soil. The ground is ploughed twice over, and seed sown broadcast, and neither weeded, manured, nor irrigated. The *bhus* yields the best fodder of all the *kharif* pulses, but it cannot be stored, as it only lasts for one year. *Moth* with the grain unthrashed is a valuable fodder. The seeds of *moth*, *urd* and *mung*, when husked and split, are called *dal*, and eaten largely by the people, generally boiled.

Urd grows in stiffer soil than *moth*. The *dal* is of the finest description, but the *bhus* is inferior to that of *moth*

Mung is almost always sown and reaped with *jowar*, unirrigated maize or *bajra*, chiefly with the latter. The *bhus* is not so good as that of *moth* or *urd*, but is still very good indeed. *Moth*, *urd* and *mung* are very apt to be ruined by over-saturation in the Khadir.

Gwara is a pulse cultivated in much the same manner as those above mentioned. It is grown for cattle only, the grain is boiled, and given as a fattening food to bullocks. Or it is coarsely ground and given dry. The *bhus* is worthless; but the green plant is cut and chopped up and given to bullocks. It grows only in light soil, and is sown with the first rains, and always alone.

Til.

No varieties of *til* are recognized. It must be grown in good stiff soil; and the soil must be new to give a good crop, which is probably the reason why it is chiefly cultivated in the

Nardak where virgin soil abounds. It is generally sown with *jowar* or *bajra*. When the plants are cut they are put up on end to dry. As they dry, the pods open, and the seed is then shaken out. The stems (*dansra*) are of no use. The seed is taken to the oilman, who returns two-fifths of the weight in oil, keeping the oil-cake (*khal*) which he sells. The oil is good for burning, and is the best of all oils for purposes of the kitchen. *Til* is very subject to attacks by caterpillars (*al*). And if it once dries up it never recovers.

CHAP. II. A.
Agriculture.
Til.

San and sani.

San is sown, seed by seed, on the edges of the sugarcane field, or in rows among the cotton, and takes its chance with them. It is cut in Katik. The plants dry for two or three days, and are then, or when wanted, weighted down under water in the pond or in a well. They soak for 40 to 60 days in the cold, or 20 days in the hot weather. The fibre is then stripped off, washed thoroughly, dried, and is ready for use. The sticks are called *sankokra*, and are useless. The fibre is especially used for the *lao* of the well, as it is very strong, and stands water without rotting. It is also used for ropes in general; but does not wear so well as *sani*.

Sani is sown in sandy soils, especially in the *bhur* near Panipat. The land is ploughed once, the seed is sown broadcast, and no further trouble is taken with it. It is sown in Sarh and cut in Katik. It is dried and then steeped for 8 to 10 days in the cold, or half that time in the hot weather The stems are then washed, dried, and put away whole, the fibre being stripped off as wanted. It makes the best ropes of all, but will not stand constant wetting. The sticks are called *sunki*, and are useless.

Wheat.

Wheat forms the chief spring staple of the Jamna Khadir. The principal varieties are the *pila*, the best of all wheats; *kunja*, with a long straw, and full ear, of somewhat inferior grain; *jogia*, a short wheat of good quality; and *lal*, a very hardy and productive wheat of good quality, which does with less water than the others, and is sown in the inferior soils and in unirrigated tracts. There is also a beardless variety called *mundli*. Wheat and gram are very commonly sown together, especially in a year when failure of rain in September prevents the sowing of gram alone, but rain falls in October. Wheat will grow in almost any soil except the very stiffest where barley takes its place; and if there are good Christmas rains (*mahawat*) a fair crop may be got without irrigation. It is not grown alone as an unirrigated crop in the Indri Nardak or anywhere in Kaithal except in the Powad

CHAP. II. A. — Agriculture. — Wheat.

and the flooded parts of the Naili. The soil is worked up in the most careful manner during the rains; and the oftener it is ploughed the better. It is generally sown after cane or maize, when no fresh manure is added; otherwise manure is almost always given, and the Malis and Rains use a top dressing of *rehi* of some 12 or 15 maunds to the acre, when the plant is six inches to a foot high. The field is dressed laboriously with the *sohaga*, and the seed sown broadcast. It is watered 20 or 30 days after sowing, according to the original wetness of the soil; and then, at intervals of a month, three times more on the canal, four times more in the Khadir. It is weeded after the first watering; and once again, in the Khadir at any rate, where the *piazis* (weeds) are numerous. It ripens suddenly and hired labour is generally needed for the harvest, the labourers getting 5 to 7 *sers* a day in the ear. The *bhus* is very fine fodder. The grain of wheat alone is not much eaten, it going to the Bania, while the people eat the mixed grains mentioned below. Wheat is very liable to smut, often called *dhaunchi* in this case, and rust (*kungi*). Sometimes the east wind in dull weather will make the ears curl and twist up; and this is called *maroria*. Late frost does it much harm if it has been sown so early that the ear is then forming, but not otherwise.

Barley.

Barley sown alone is not an important crop in Karnal. It is the hardiest of all cereals, will grow in any sort of soil, and will stand either excess or deficiency of water. It may be sown later, too, than any other of the spring crops and men may be seen sowing barley at the very end of the season on the edges of a swamp which is still too wet to plough, with the intention of ploughing it in as the soil dries. The limit to the sowing is expressed by the proverb, "*boya poh, diya kho,*" "sow in Poh and you lose your seed." The field is ploughed two to four times, the *sohaga* is passed over it, and the seed sown broadcast. Manure is given if there is any to spare, which there seldom is, and water is given if the needs of the other crops allow of it. It is seldom weeded unless the weeds are very bad. The grain is much used by the people for bread; and the *bhus* is admirable fodder. Barley sometimes suffers slightly from smut; but nothing else seems to touch it, windy weather of course excepted.

Gram.

Gram is the great barani *rabi* staple in the Indri Bangar, the Karnal and Indri Nardaks, and throughout Kaithal, except in the Powadh. It grows best in stiffish soil. It is generally sown broadcast and is often mixed with wheat or barley. In the very stiff rice fields the *dakar* is ploughed up once after the rice

CHAP. II.A. — Agriculture. — Gram

is cut, so as to break it up into large hard clods, in the crevices between which the gram grows. Lighter land is ploughed two or three times and is sown more sparsely than stiff soil. No manure is used ; and irrigation rots the plants, so that the soil should be very moist for sowing. If this is the case and Christmas rains are good, a fine crop is almost certain. Gram is never weeded. The grain is used as *dal*, and for bread, often in the latter case mixed with cereals. The *bhus* is admirable fodder. The young plant is used as a vegetable, the green seed is eaten raw, and at harvest time the plant is thrown on to a fire of grass, and the roasted seeds (*hole*) rubbed out and eaten. Either the phosphoric acid which the leaves deposit, or the down with which they are clad, is exceedingly irritating to the skin. The plant is exceedingly sensitive to frost ; and a green worm, called *sundi*, attacks the seed, especially if the Christmas rains are late, so that the ground is damp when the seed is forming.

Masur or *Masri.*

Masur is a small pulse, growing chiefly in the very light soils of the Khadir. The ground is ploughed twice, and dressed and the seed sown broadcast, often mixed with barley. No manure is used ; but it is irrigated if the labour can be spared. The grain makes very good *dal* ; but the yield of fodder is insignificant.

Rabi oil-seeds.

It is difficult to say what the area under *sirsam* is as it is usually sown together with wheat or gram, often in rows (*ad*). It is largely grown in Kaithal, but the area fluctuates to an extraordinary degree with the character of the season. Two kinds are grown in the tract ; the black which is more hardy but less productive, and the yellow. It is grown chiefly for its oil, though the green plant is much used as a vegetable and as green meat for cattle. If sown separately, it is neither weeded nor manured, and seldom watered. It ripens in Phagan, the earliest of all the *rabi* crops except *toria* ; and the plants are picked out from the crop with which they are growing. The seed is called *bhakar*, and yields an oil which is the finest of all oils for burning, and is also good for cooking purposes, though inferior in this respect to that of *til*. The oilmen return one-third of the weight of seed in oil if yellow, and one-fourth if black, and keep the oil-cake. The *bhus* is called *turi*, and is worthless The plant is subject to the attacks of a gregarious red caterpillar (*al*) and is very sensitive to frost.

Toria is an oil-seed (one of the *brassicas*), deriving its value from the rapidity with which it ripens. It is sown in Bhadon and ripens in Poh ; coming in just when oil is dear, and before

CHAP. II.A.

Agriculture.

Rabi oil-seeds.

the other spring oil-seeds have been reaped. Hence the proverb—

Toria hal joria, urdon choti bel,

Bhawen kitna bhagle, pakunga tere gel.

"The plough is yoked for the *toria*, when the *urd* creepers are already long.

But hasten as you will, I will ripen along with you."

Meth

Methi is a trefoil, used only as green fodder for cattle or as a pot herb. It is generally sown, sometimes with a little gram or *sirsam* mixed with it, between the cotton plants. Before the pods open, the ground is grubbed up with a hoè and the *methi* sown. It is watered the day after and again at intervals of 20 days or less as it needs a great deal of moisture. It grows very thick and close, and is cut green. It only yields one cuttiug.

Tobacco.

Tobacco is very generally grown in the villages, but mostly for private consumption only, except where local peculiarities are especially favourable.

The plant grows best in a nice loam soil, neither too stiff nor too open. A slight saline impregnation improves the plant; and the water of bitter wells or of the dirty village ponds, is best. Canal water is too pure. The land is ploughed 8 or 10 times, dressed most carefully, and laid out in ridges some 2 inches high and 8 inches apart, the seedlings being planted half way up the ridge on either side alternately and about 8 inches apart; for if water lies about the stem, it injures the plant. This is done in Magh or Phagan. They are then hand-watered with manure dissolved in water. Solid manure is generally used as a top dressing, as less is thus required. The dung of goats and sheep is the best, and old dry cow dung mixed with ashes. The field is watered every 10 days or so; and the hoe is then freely used so as to keep the earth about the roots open and the weeds removed. As the leaves grow they are sprinkled with *reh* or ashes to keep off insects and improve the flavour; and the flower-bearing pedicles (*go* are nipped off as fast as they appear. The plant is ready to cut in Jeth. The whole plant is cut in the morning and left in the field for 24 hours to dry. Next day they are piled up and left to dry further. A hole is then dug and the plants are packed into it, covered up with *dhak* or *ak* leaves and left to ferment for five to ten days. The leaves (*pat*) are then stripped and either tied up into bundles (*juti*) or twisted into a thick rope. They are, if necessary, further fermented; and are finally dried and kept for

use. When tobacco is wanted the leaves are cut up and powdered with an equal weight of *gur* in a mortar.

CHAP. II.A.

Agriculture.

Mixed crops.

The mixed crops proper are confined to the spring harvest, for the small pulses so commonly grown among the huge millets in the autumn are reaped and thrashed separately. In the spring, however, mixed gram and barley (*jachani*), wheat and gram (*jauchani*), wheat and barley (*goji*) and all three mixed (*berra*) are commonly sown and reaped together, especially the two former. This custom has brought on the Indian cultivator much very undeserved hard language. It is true that the mixed grains have no export value, but then he does not grow them for export or even as a rule for sale. In one village the people complained that their Banias, to whom they were in debt, would not let them grow mixed grains The peasant devotes his best soil, his manured and irrigated fields, sown at the proper season and when neither too wet nor too dry, to the single grains which he will sell to his banker. In the remaining land he grows mixed grains which he eats himself, liking the varied flavour and especially finding the nitrogenous pulses an indispensable substitute for the animal food which religion or poverty forbids to him. Besides this, the three crops, which are sown together, flourish under different circumstances ; and a season which destroys one will very likely suit the other, and so gives a fair yield in the end. If it is rather late to sow gram alone, he sows gram and wheat ; and if the soil appears very wet, he will sow gram and barley. The damp will suit the barley, while if there are no Christmas rains it will save the gram. The frost which will kill the gram will spare the others ; while the dew on the gram leaves will help the wheat, and the wheat and barley will shelter the young gram from the sun.

Rotation of crops.

Such rules as are observed by the people regarding the rotation of crops are, of course, founded upon experience, and not upon scientific knowledge of crop foods and soils. But they have their reasons for them. The soil in which the spring crops are grown is called *dathoi* or *bhadwar*, according as it has or has not borne a crop in the autumn immediately preceding ; the former name from *datha*, a stalk, as the stalks are generally left in the hurriedly prepared ground ; the latter from Bhadon, the month in which they begin to plough the field. In single cropped land the chief consideration is the full utilisation of manure, care being taken to sow in land which has been heavily manured, and which will not have been exhausted by the single crop, only such valuable crops as must have manure to bring them to perfection. In

CHAP. II.A.

Agriculture.

Rotation of crops.

double cropped land the nature of the crop to follow is chiefly determined by the date at which the autumn crop is cut, and the interval thus afforded for the preparation of the soil. Thus maize, which is cut early and always manured, is generally followed by wheat. Cotton is, for the same reasons, usually followed by cane, which is also often sown after *jowar*, manure being added. Cotton is often sown after cane or wheat; and wheat will often follow cotton or cane, with a season's interval. *Jowar*, which is very exhausting, is seldom followed by any spring crop except gram. Rice, except in Indri where nothing but rice is usually sown in rice land, is almost always followed by gram or mixed grains, the stiff wet soil being in many cases incapable of producing anything else, while the pulse following the cereal does not seem to suffer, judging from the crops often produced. And in the swampy canal villages, where the whole area is often too wet to grow anything but rice, barley is perforce sown in every field in the spring, not because there is much hope of a tolerable grain crop in the swampy fields, but because some sort of fodder must be had, and rice straw is of but little use. Manured land is never allowed to rest more than one season at a time, while the highly manured land close to the town will yield, with the help of vegetables and *china*, three or even four crops in the year.

Section B.—Rents and Wages.

Development of tenures.

The agricultural land of the district is for the most part in the hands of self-cultivating peasant proprietors. Sixty-nine per cent. of the cultivated area is so held, the proportion being largest in Kaithal, 78 per cent., and smallest in Thanesar, 52 per cent. The figures for Karnal and Panipat are 65 per cent each.

There has been little change in this respect since the last settlement. The partition of the Skinner estate in Panipat and Karnal was followed by the sale of practically all the villages owned by the family. In some cases the Jat and Arain tenants were strong enough to buy proprietary rights, in others the Skinners have been succeeded by Banias, members of the Mandal family or wealthy *zamindars*. The area of cultivated land held by rent-receiving landlords has been increased by grants of waste land to Civil and Military pensioners, while several estates formerly kept as grazing reserves by the Mandal and Kunjpura families have been opened to cultivation. The area held in occupancy tenure has naturally undergone little alteration. But the tenure of land by tenants-at-will paying-at-revenue rates is bound to diminish under the pressure of increasing population. Other tenants-at-will hold at cash rents or on rents represented

CHAP. II. B.

Rents and Wages.

Development of tenures.

by various shares of the produce. The prevalence of any particular form of rent is largely a matter of custom, but a cash rental commends itself to non-resident landlords such as the Mandal *jagirdars* and the wealthy *mahajans* of Panipat, or to incompetent owners such as the Syeds of the Karnal Khadir, who, though resident, are anxious to avoid the trouble of *batai* collections. In Kaithal, Thanesar and Indri the rent-receiving classes are chiefly village money-lenders who are able to supervise the division of the produce themselves.

The Panipat city lands are held on the tenure known as *ijara*, the tenant paying a fixed rent in maize for the *kharif* and in wheat for the *rabi* harvest.

Wages.

The following is taken from a note prepared for a Preliminary Survey of Wages for the Punjab in 1909 :—

Wages for adult unskilled labour hired by the day at ordinary times of the year excluding the harvest season are practically never paid entirely in grain. The customary rates in the villages are a simple cash wage of Re. 0-3-0 to Re. 0-4-0 or a cash wage of Re. 0-2-0 supplemented by a meal, and from Re.0-4-0 to Re. 0-5 0 cash in towns like Panipat, Karnal, Kaithal and Thanesar. A wage less than Re. 0-3-0 on its equivalent in cash and food is only recorded at one very backward centre in the Panipat Khadar where Re. 0-2-0 in cash is reported.

Wages tend to increase as one goes westwards and northwards. The lowest wage is paid in the Khadar tracts where a Re. 0-3-0 cash rate is common, especially in the Thanesar and Indri Khadar, a payment corresponding with that recorded as prevalent in the adjoining districts across the Jamna, Saharanpur, Muzaffarnagar and Meerut. Outside the Khadar the common wage is Re. 0-2-0 in cash with a meal and tobacco valued at Re. 0-1-6. But in the villages west of Thanesar, and in the northern part of the Kaithal tahsil, Re. 0-3-0 in cash is supplemented by a meal and tobacco, or tobacco or gram is given in addition to Re. 0-4-0 in cash.

The complaints of a dwindling population in the decaying Khadar tracts of Thanesar and Indri would lead one to expect a higher rate in these villages. But the influence of the United Provinces no doubt tends to keep the rate lower than elsewhere. The higher rates in the rest of the district are due to the demand for labour caused by the extension of canal irrigation, by want of

CHAP. II. B.

Rent and Wages

Development of tenures.

hands in Thanesar and Guhla, and possibly by the small proportion of Kamins in the north of Kaithal. The *zamindar* even when paying true wages gets his work done at a cheaper rate than the non-agriculturist who has frequently to pay Re. 0-5-0 a day even in purely rural tracts.

Former Gazetteers and Settlement Reports contain little information on the subject of wages. From the short paragraph in Sir Denzil Ibbetson's Karnal Settlement Report (421) it would appear that 30 years ago in the south of the district the ordinary day labourer was paid about Re. 0-2-6 worth of grain and his midday meal, which then cost perhaps half an anna. If this is true there must have been a sudden change in the general custom, for it is generally reported that twenty years ago the wage was Re. 0-2-0 or Re. 0-2-6 in cash, sometimes but by no means always supplemented by a meal. After the famine of 1896-97 it became customary to add a meal to the cash payment, which in many cases has also been increased until the rates recorded above have been reached. The tables appended to the last edition of the Karnal Gazetteer show the wages for unskilled labour in 1889 as ranging from Re. 0-2-6 to Re. 0-3-0, but Mr. Douie considered these figures of doubtful value, and as no details are given, it is impossible to draw any conclusions.

Labourers in cotton factories get about Re. 0-8-0 a day. These are generally Chamars.

Wages for skilled labour naturally depend on the distance from which the artisan is called. Thus a carpenter or mason called in for a job in his own village will sometimes get only Re. 0-4-0 with one meal and tobacco, though the common rate is Re. 0-4-0 with two meals and tobacco, which may be considered as equivalent to the fairly common cash wage of Re. 0-8-0 a day. Wages in towns are as high as Re. 0-10-0. Practically no difference is recorded between the wages of a carpenter and those of a mason. The blacksmith's work is not carried on under the same conditions as that of the carpenter or mason. That is to say he cannot transport his forge and tools to the village or house where work is to be done. For the ploughshares and other iron agricultural implements required by the village he receives his customary due in grain but few, if any, occasions arise in this district where he would ordinarily be employed for the day on any iron work.

Reports as to wages formerly paid are conflicting. In some centres no change is reported except what has naturally taken

CHAP. II. C.

Arts and Manufactures.

place in the value of the meals. In others it is said that the Re. 0-4-0 cash wage has now been supplemented by two meals which would make the wage about twice as high as it was 20 years ago.

Development of tenures.

Custom varies as to the wages of ploughmen, who are paid sometimes in grain by the year, and sometimes in cash and board by the month. When paid by the year they get 18 maunds and generally a meal, and a blanket and shoes, a rate which corresponds with that recorded 30 years ago in paragraph 421 of the Karnal Settlement Report. Like other grain payments this wage has remained practically unchanged. When paid by the month the ploughman gets a wage varying from Rs. 4 in cash and one meal, the equivalent of Rs. 7 a month, and Rs. 4 and two meals or Rs. 9 a month. In the Thanesar tahsil wages are higher and are estimated in cash and grain at about Rs. 12 a month. The rate of Rs. 3 per month or annas 8 a month and board recorded in paragraph 421 of the Karnal Settlement Report has therefore been more than doubled.

The statistics for the Karnal District in the Report of the First Regular Wages Survey of the Punjab taken in December 1912 show only a slight rise in the rate of wages.

Section C.—Arts and Manufactures.

Village industries.

The census returns of 1901 show that the menials who supply the industrial wants of the village communities amount to 15 per cent. of the total population of the district. The Chamars are concerned with the tanning of hides, and manufacture all the leather articles required for agriculture and well irrigation. The Julahas weave the coarse country cloth used for the clothing of the agriculturists. The Lohars provide rough iron work; the Tarkhans or Bhadis the wood work. Baskets and *chatais* are made by the Jhinwars, pottery and bricks of the small old fasioned type by the Kumhars, oil-pressing is carried on by the Telis, while Sunars provide the villagers with such articles of rough jewellery as they can afford. These village industries are described by Mr. Ibbetson in detail in paragraphs 496 to 502 of his Settlement Report. They are indissolubly bound up with the village community. Payment for work done is usually in kind, and prescribed by custom. At present there are few signs of the village handcraftsmen being drawn away to industrial centres, but with the spread of factories and the demand for labour, this difficulty is likely to appear in the near future.

Special industries and manufactures.

Eighteen per cent. of the total population in 1901 was engaged in special industries, the most important being cotton

CHAP. II. C.

Arts and Manufactures.

ginning, brass and copper manufacture, glass blowing, blankets and *darri*-weaving, dyeing and calico-printing and the leather industry.

Cotton-ginning factories.

The cotton-ginning industry dates only from 1897 when the first ginning factory was started at Panipat. In 1899 another was erected at Samalka. The number of these concerns increased largely after 1902. There are now 11 factories and pressing machines in the district, of which 3 ginning factories and I press are in Panipat, 1 ginning factory at Samalka, 3 at Kaithal, 2 at Karnal, and one at Dhatrat near Jind. As elsewhere the erection of factories has been overdone, and it is rare to find all working in one season. When working full time the average factory employs about 70 hands. The working season begins in October and ends in March. The actual drain on the labour supply of the district is small, but the establishment of factories has undoubtedly affected economic conditions. It has greatly stimulated the cultivation of cotton. Owing to competition in the district and elsewhere it is to the interest of every factory owner to provide itself with a sufficient supply of cotton to be cleaned and pressed. This he does either by entering into forward contracts with the *zamindar* to supply so much cotton as early in the season as possible, or by outbidding the neighbouring factory by the prices offered for raw cotton brought to the factory gate. There are no spinning or weaving mills in the district, and the cleaned and pressed cotton is exported to Bombay, Delhi or Cawnpore. The drain of raw cotton from the village to the factory has brought about other changes in the village life. The old hand mill (*charkhi*) worked by the members of the household is now almost extinct, and the *zamindar* has now to buy back his cotton seed from the trader. The large double-stringed bow (*pinan*), used to clean the ginned cotton, is now rarely seen. The weaver carries on his work with yarn imported from the Bombay or Manchester mills. The raw cotton for factories, when not arranged for by forward contract, is collected by Bannias acting as agents for the various factories, though occasionally a prosperous *zamindar* will himself take cotton to Panipat or Kaithal in order to secure the best possible prices. The price of cleaned cotton has risen from 4 seers a rupee to 1½ seer a rupee and there have been few setbacks. The price of cotton seed has in late years increased from 40 seers to 18 seers a rupee.

Other steam mills.

Some corn mills and rice-husking machines worked by steam are to be found in the principal towns of the district.

CHAP. II. C.

Arts and Manufactures.

Brass and copper ware.

The town of Panipat is noted for its brass and copper wares, the business being carried on in some 60 shops. The manufacture includes not only cooking utensils and drinking vessels of all forms and shapes but also ornamented *hukkas* and *sarotas* (betel-cutters). For the plainer forms of ware the brass and copper sheet is hammered into the required shape, but for more elaborate articles the brass is melted, a certain proportion of zinc or lead is added and the whole is fashioned in a mould. The ware is exported to all parts of the Punjab and United Provinces. The names of the principal manufacturers, known as *thatheras*, are Haji Khuda Bakhsh, Maula Bakhsh and Ghasita, son of Nathu. The following firms of Mahajans are interested in the wholesale export trade:—Sant Lall Mustaddi Lall, Himat Singh, Jagan Nath, Hargolal, Ajudhia Parshad.

Iron and steel work.

For the manufacture of his rough agricultural implements the ordinary Lohar uses iron plates received from Bombay and sold in the town bazar. So long as he remains in the village he is not very adaptable, and repairs to the iron sugar press (*belna*) are carried out not by him but by a special workman from Delhi or Ambala. A few shops in Panipat, notably those of Qamar-ud-din, Muhammad Umar, Jiwan and Abdul Rahman, manufacture scissors and betel-cutters (*sarota*) after the fashion of similar articles made in Meerut.

Glass blowing.

Three glass-blowing factories are worked in Panipat during the cold weather and even then chiefly at night as the heat of furnace is intense. The operations, which have probably not varied for centuries, are described in full in Mr. Powell's Hand Book on Arts and Manufactures of the Punjab (see page 237). The only articles produced are globes, the insides of which are silvered with quicksilver and tinfoil. Smaller ones are used as ornaments and the larger ones broken up and used to decorate the *Phulkaris* of the village women. The present workmen seem incapable of developing the process so as to produce other articles of general use. The factories are owned by Muhammad Umar, son of Baha-ud-din, and Qamar-ud-din, son of Alla-ud-din. The ware is exported to Multan and Hyderabad-Deccan. The large pear-shaped retorts used in the manufacture of sal-ammoniac are also made in these glass factories.

Churi manufacture.

There are three factories in Panipat,—two owned by men from Ferozebad and one by a local man formerly an *attari*. They have each 7 or 8 workmen. The work is done by contract, *i. e.*, 4,000 *churis* for one rupee or 3,000 if they are facetted. The

CHAP. II. C.

Arts and Manufactures.

Churi manufacture.

skilled workman earns about 8 or 9 annas per day. His art consists in taking the proper quantity of molten glass on a pointed iron rod and making it into a small ring. This is handed over to his assistant who gets 4 annas or 5 annas a day and is provided by the proprietor. He then works it up in to a *churi* on a cone shaped earthen contrivance fitted to a thin bar which he revolves.

The *churis* are sold at the rate of 24 for a pice to the Maniar who sells them to the public at 6 for a pice.

The glass is got from the Ambala factory at Rs. 5-8-0 a maund. Broken imported *churis* are also purchased at Rs. 8 or 9 per maund.

The wearing of *churis* is absolutely indispensable amongst all women, except widows and the very old. They wear as many as 24 on each arm. The *churis* on the other arm must correspond, but there is no restriction as to colour or design which each wearer is at liberty to select.

The "Maniar" alone can put on *churis*, as he alone has the skill to do so without breaking them. He goes about from village to village. (He is entitled to Re. 1-8 at each marriage.)

New *churis* are worn by a bride's relatives and at festivals. The old ones are taken away by the Maniar to be broken up or passed off as new.

About 75 maunds of glass is consumed in Karnal every month. Each factory turns out about a lac of *churis* a month.

Balnkets and *darris*.

About 150 looms in Panipat are worked by Kamblis (blanket-makers). The wool is bought from Kasais and Gadaryas who keep large flocks of sheep, especially in the Nardak villages. The blankets are of excellent quality and are exported to Lahore, Amritsar, and even to Peshawar, as well as to Delhi, Agra and Simla. Prices range from Rs. 3 to Rs. 15 per blanket according to the quality. The trade is considerable and capable of development.

Darries of good quality are made in Karnal, some 10 looms being employed. The price is from Re. 1-2 to Re. 1-6 a square yard. Ghulam Ali and Hussain Bakhsh are the principal dealers.

Only one stocking machine is working in the district. It is owned by Maharaj Kanwar, merchant of Karnal. Stockings are sold from Rs. 2 to Rs. 4 a dozen.

Dyeing and calico printing.

Curtains and cloths of all kinds are printed with various designs in Panipat, about 60 shops being employed in the business. The goods are exported to Lahore and as far as Bombay and the Central Provinces. The ordinary cloth bought in the bazar is used, and the dyes are of European manafacture. The chief persons engaged with the business are Hafiz Allah Dia, Karim-ud-din, Karim-ullah, Alahi Bakhsh and Muhammad Bakhsh.

Leather industry.

The Chamars of Karnal carry on a considerable trade in boot and shoe making, the industry being a relic of the old cantonment. The boots are exported to all parts of the Punjab and North-West Frontier Province. The leather used is partly ordinary country leather tanned by village Chamars, and partly leather imported from Cawnpore. The retail price varies from Rs. 2 to Rs. 10 a pair. Attempts have been made to organize this industry, and it would probably be to the benefit of the Chamars as a class if they were properly controlled. At present they are extravagant and thriftless and addicted to liquor.

Pottery making.

Ordinary vessels for village use, including the *tinds* or earthen buckets for Persian wheels, and small bricks are made by the Kumhars. Their methods are too well I known to need description. The large bricks used for Government buildings and houses of modern type are made in brick kilns owned by contractors and worked by special workmen from Delhi and Ambala. Special kinds of glazed art pottery, such as tea pots, cups, and other fancy articles, are made by *Kuzigars or Sanauris* in Panipat and find a ready sale at fairs and festivals. The quality of these goods is very fair and the industry deserves encouragement. Tiles and flower pots are made by some Purbia potters in the sadr bazar, Karnal.

Carpentry and woodwork.

Besides the ordinary Badhis, carpenters having considerable skill in making furniture, carriages, etc., are to be found in Karnal. The principal men are Inait-ullah and Rahmat-ullah. Lacquered warework, such as is described on page 212 of Mr. Baden Powell's Punjab Manufactures, is made in Kaithal, the quality being very fair indeed, The process is described by Mr. Baden Powell and need not be repeated here.

Saltpetre.

The district is noted for the manufacture of refined saltpetre, as much as 4,000 maunds being sometimes exported in a year. The process of manufacture is as follows :—

Crude saltpetre.

Nitrous earth or *kallar* is collected after the rainy season is over and the earth is sufficiently dried. The nitrous earth is

CHAP. II. C.

Arts and Manufactures.

Crude saltpetre.

filtered in a tank made roughly of masonry plastered over. The earth is thrown on to a mat of grass stretched on sticks. Water is poured over this and taking with it the nitre is deposited in the tank in the shape of crude brine. From this crude brine, crude saltpetre is made in two different ways:—

(*a*) by solar heat.

(*b*) by artificial heat.

(*a*).—The former means can only be resorted to in the summer months of April, May and June. A pucca cistern, about 40 feet square and 6 inches deep, is made in a level piece of ground; below is another tank in which the crude brine is contained. It is divided into partitions and the crude brine is allowed to flow into them. When these partitions are full of the crude brine, they are left alone for a week or ten days, depending on the heat of the season for evaporation. The brine becomes thicker every day, until it crystallizes at night. It is then collected from the pan and stored in a deeply dug pit.

(*b*).—The latter process may be followed at any time throughout the year, if fuel can be conveniently obtained. A large oven is made and a large iron pan (*karrah*) is placed over it. The crude brine is put into it and boiled till it reaches the concentration point, when it is taken out of the pan and set in flat but deep earthen vesells (*kunals*). The cool of the night crystallizes the crude saltpetre, which is removed and stored in a pit.

The price of the crude saltpetre is reckoned according to the amount of refined saltpetre obtainable from it. Crude saltpetre contains a large percentage of salt, earth and nitrate of potash and other minor salts in small proportion. Ordinarily 100 parts of crude saltpetre will contain—

40	parts of nitrate of potash (refined saltpetre).	
30	do.	salt (sodium chloride).
20	do.	earth or other insolubles.
10	do.	moisture, &c.

The price of a maund of crude saltpetre containing 16 seers of nitrate of potash will be Rs. 2.

Refined saltpetre.

The crude saltpetre manufactured in different villages is of no use unless it has undergone a process of refinement. Crude saltpetre is taken to the refineries at Karnal, Panipat and

Kaithal, where the crude saltpetre is dissolved in a large quantity of boiling water in an iron pan larger than that used in crude saltpetre factories. The extreme heat of the water causes the nitrous qualities of the crude saltpetre to dissolve and other parts (salt, insoluble to a certain extent, and earth insoluble) to settle down in the pan. When thoroughly mixed up, the brine is removed from the boiler and allowed to set for a couple of hours in a wooden vat. The settling process allows all the insoluble matter to settle down in the vat, leaving the clear brine on the top. When the brine is thus cleared it is removed from the settling vessel and deposited to cool in wooden crystallizing pans. In winter the crystallization process takes 6 or 7 days, and in summer from 8 to 10 days. The refined saltpetre thus crystallized is removed from the vats and stored on mattresses. Ordinarily the proportion of its contents in 100 parts is:—

CHAP. II. C. — Arts and manufactures. — Refined saltpetre.

95 parts of nitrate of potash
3 do. salt
2 do. moisture and other insolubles.

Calcutta and Bombay are the chief markets, whence it is exported for use in the medicine and drug trade.

Sal ammoniac.

Sal ammoniac or *nausadar* is, and has been for ages manufactured by the Kumhars or potters of the Kaithal and Guhla Ilaqas of Karnal. The villages in which the industry is carried on are as follows:—Manas, Gumthala, Karrah, Siyana Saiyadan, Barna, and Bundrana. About 2,300 maunds (84 tons), valued at Rs. 34,500, are produced annually. It is sold by the potters at 8 annas per maund to the Mahajans, who export it to Bhiwani Delhi, Farrukhabad, Mirzapur in the United Provinces, and to Ferozepore and Amritsar in the Punjab, and who also sell it on an average at Rs. 15 per maund.

The salt is produced by submitting refuse matter to sublimation in closed vessels, in the manner described below, which is similar to the Egyptian method. The process is as follows:—From 15 to 20,000 bricks, made of the dirty clay or mire to be found in certain ponds, are put all round the outside of each brick kiln, which is then heated. When the bricks are burnt, there exudes and adheres to them the substance from which *nausadar* is made. This deposit, which is of a greyish colour, is produced by the heat of the kiln in the hot weather in three days, in the cold weather in six. In the rains no *nausadur* is made. The bricks on which this deposit forms are removed from the kilns,

CHAP. II. C.

Arts and manufactures.

Sal ammoniac.

and the deposit is scraped off. The deposit is of two qualities. The first, which is the commoner and inferior quality, is known as *mitti kham*. The yield per kiln containing 15 to 20,000 bricks is about 20 or 30 maunds, and sells at 8 annas per maund. The superior kind of sal ammonia is called *papri*. The yield of it per kiln containing 15 to 20,000 bricks is not more than 1 or 2 maunds and is sold at the rate of Rs. 2 or $2\frac{1}{4}$ per maund. The Mahajans, who deal in *nusadar*, buy both qualities. Both require special treatment to fit them for the market. The *kham mitti* is first passed through a sieve, and then dissolved in water and allowed to crystallize. This process is repeated four times to clear away all impurities. The pure substance that remains is boiled for nine hours. By this time the liquid has evaporated, and the resulting salt has the appearance of raw sugar. The *papri* is next taken and pounded fine after which it is mixed with first preparation, and the whole is put into a large glass vessel made expressly for the purpose. This vessel is pear-shaped, and has a neck $2\frac{1}{2}$ feet long and 9 inches round, the end of which is closed.

The composition to be treated is inserted into this vessel by breaking a hole in the body of the vessel, at the lower end of the neck. This hole is closed by placing a piece of glass over it. The whole vessel (which is thin black coloured glass) is smeared over with seven successive coatings of clay. The whole is then placed in a large earthen pan filled with *nausadar* refuse to keep it firm, the neck of the vessel is further enveloped in a glass cover and plastered with fourteen different coatings of clay to exclude all air, and the vessel is then placed over a furnace kept lighted for three days and three nights, the cover being removed once every twelve hours in order to insert fresh *nausadur* as sublimation takes place. After three days and three nights the vessel is taken off the furnace, and when cool, the neck of it is broken off, and the rest of the vessel becomes calcined. Ten or twelve seers of sublimated salt, according to the size of the neck of the vessel containing the *nausadur*, are thus obtained. This product is known as *phali*, and results from the sublimation of the salt in the body of the vessel and its condensation in the neck. There are two kinds of *phali*; the superior kind is that produced after the *nausadur* has been on the fire for only two days and two nights, in which case the neck is only partially filled with the substance, and the yield is only 5 or 6 seers. This is sold at the rate of Rs. 16 per maund. To produce the inferior kind the *nausadur* is left on the fire three days and three nights,

CHAP. II. D.

Trade.

Sal ammoniac.

the neck of the vessel being completely filled with *phali*. The yield is then 10 or 12 seers, and the salt is sold at Rs. 13 per maund. That portion of the sublimated *nausadur*, which is formed in the mouth and not in the neck of the vessel, is distinctively called *phal*, and not *phali*. It is used in the preparation of *surma*, and is highly esteemed, selling at Rs. 40 per maund. Each furnance is ordinarily of a size to heat at once seven of the large glass vessels containing *nausadur*. *Nausadur* is used medicinally and as a freezing mixture with nitre and water; also, in the arts, in tinning and soldering metals and in forging the iron used for making gun barrels by native smiths.

Dairying.

Ghi is manufactured by the villagers throughout the district and sold to the Bannias in the towns, who export large quantities to all parts of the Punjab specially Amritsar and Lahore. Railway exports alone are valued at Rs. 50,000 but this represents only a small part of the total export Since 1905 a Military Grass and Dairy Farm has been established in Karnal. The milk is bought from the zamindars in various parts of the Karnal tahsil, small separating machines being established in about 10 villages.

The cream is separated on the spot and sent into Karnal to be sterilized in the large machines working in the Grass Farm. A supply of cream sufficient for the butter daily required in the Ambala Cantonment and Simla Hill Stations is sent in by train to Ambala every night. Milk is also supplied to regiments on the march and manœuvres. The skim milk either goes to feed the pigs, of which a number are kept in the Grass Farm, or is sold in the city and villages. The *zamindars* are glad enough to deal with the Grass Farm on the basis of cash payment which they prefer to the mysterious accounts of the Bannia.

The Karnal distillery.

Although employing very few hands, one of the most important industries in Karnal is the distillery. The old Government distillery was handed over to Lala Kundan Lal Kishori Lal and Sons in 1900 to be worked as a central distillery. The latest machinery and plant have been introduced, and the business has steadily expanded. In 1900 the liquor issued paid a still head duty of only Rs. 37,328. In 1908-09 the issue was 51,951 gallons, and Rs. 1,99,162 were paid as still head only. Besides the ordinary country spirit the firm is noted for several special brands of liquor of peculiar excellence and quality.

Section D.—Trade.

The chief exports are wheat, cotton, gram, fine rice and *ghi*. The manufactures of brass vessels glass, sal ammoniac

CHAP. II. E.

Communications.

and saltpetre have already been described. These articles are also exported. The chief imports are salt, oil and oil-seeds, iron and piece-goods. Cotton and wheat go chiefly to Delhi and Ambala, some qualities of wheat from the Panipat tahsil having a high reputation in the Delhi market. *Ghi*, in the past too often adulterated, and hides find their way to Delhi. The oil and oil-seeds come from the Punjab and the Doab, timber from Ambala; iron and piece-goods from Delhi; and salt from Bhiwani, Delhi and Ambala. Karnal town and Panipat on the Dehli-Ambala-Kalka-Railway are the chief marts, and a good deal of trade comes by way of Kaithal, through which runs the railway from Narwana to Thanesar. Panipat is now connected by railway with Jind on the Southern Punjab line, and its importance as a trade centre is likely to increase.

The local trade is principally conducted through village dealers, but a very considerable traffic is carried on by the cultivators themselves, especially by Jats from Rohtak, who in the hot season earn a good deal by plying their carts for hire. On the old road through Jind to Sambalka and thence across the Jumna to the great sugar marts of the United Provinces strings of camels may still be seen engaged in traffic between the rich lands of the Doab and deserts of Bikaner.

Section E.—Communications.

Twenty years ago, the Grand road running north and south along the western edge of the Khadir was the only metalled road in the district and the North-Western Railway only skirts the fringe of the (Pipli) Thanesar tahsil. The opening of the Dehli-Ambala-Kalka Railway in 1892 and the extension of the Southern Punjab Railway to Kaithal in 1899 have given considerable stimulus to trade. In the last 10 years cotton-ginning factories have sprung up at Samalka, Panipat and Karnal near the Railway Stations of the Delhi-Kalka Railway, and there is a considerable movement in all kinds of staples at these centres, as well as at Gharounda and Shahabad. Cotton-ginning factories have also been built at Kaithal, and the extension of the Dehli-Kalka Line from Thanesar to Kaithal may increase the trade in that part of the district. The railway from Jind to Panipat should open up a very prosperous part of the country. Metalled roads connect Kaithal and Karnal, Pehowa and Thanesar, Thanesar and Ladwa, and Karnal and Indri. Tracks along the side of the main canals are of assistance to village traffic and a good unmetalled road runs from Karnal to the river, and another from Pehowa to Guhla. Although some routes, notably in the Khadir, have been somewhat neglected by

the District Board the general communications of this large district have been improved out of all knowledge since the last settlements were made.

CHAP. II. F.

Famine.

Section F.—Famine.

Including the *chalisa* famine of 1783 the district has been visited by famine thirteen times in 120 years, one of the most terrible perhaps being that of 1833. Relief works seem first to have been established in the famine of 1861, when 22,237 persons were relieved in one month. In 1869 the famine was more severe in Karnal than in any other part of the Punjab, and hundreds of people were reduced to semi-starvation. The expenditure was 1·7 lakhs, and the highest daily average of persons relieved was 13,934. Cattle to the number of 65,000 died. From 1875 to 1877 there was not a single good harvest, and though the scarcity hardly assumed the proportions of a famine the cattle suffered terribly. There was another grass famine in 1883-84. In 1896-97 the highest daily average relieved was 12,361, and the expenditure barely 2 lakhs. The areas affected were the Nardak tracts of Karnal and Kaithal, and the Naili tract of Kaithal. In 1899-1900 the Nardak in Karnal, and part of that in Kaithal were protected by the Nardak Branch of the Western Jamna Canal. The tracts affected were chiefly the Naili and Bangar tracts of the Kaithal tahsil, and parts of the Thanesar tahsil. The highest daily average relieved was 14,075, and the expenditure was 2·6 lakhs. On the whole the district itself may be classed as fairly secure thanks to the extensions of canal irrigation in the last quarter of a century. The worst tract is undoubtedly the Naili, and difficulty may arise there in times of drought. Otherwise the emigration of destitute persons is likely to be the chief cause for anxiety.

CHAPTER III.—ADMINISTRATION.

Section A.—Administration and Divisions.

The district is in the charge of Deputy Commissioner under the control of the Commissioner of the Ambala Division. A Sub-Divisional Officer, usually an Assistant Commissioner, is in charge of the Kaithal Sub-Division which contains the Kaithal tahsil and the Guhla sub-tahsil. There are four tahsils with head-quarters at Karnal, Thanesar, Panipat and Kaithal. A Naib-Tahsildar holds charge of the Guhla sub-tahsil under the Tahsildar of Kaithal.

Section B.—Criminal and Civil Justice.

Criminal justice.

The criminal judicial work of the district is supervised by the District and Sessions Judge of the Karnal Sessions Division. The official staff of Magistrates consists of the District Magistrate, the Senior Sub-Judge and the Sub-Divisional Officer, Kaithal (who have also powers under Section 30, Criminal Procedure Code), 2 Extra Assistant Commissioners with 1st class powers, 4 Tahsildars with second class powers and 6 Naib-Tahsildars with 3rd class powers. The Junior Sub-Judge stationed at Karnal is allowed to perform criminal work during September.

The following gentlemen exercise criminal jurisdictions as Honorary Magistrates in certain parts of the district:—

Names of gentlemen exercising judicial powers.	Powers.	Jurisdiction.
(1) Sardar Jowala Singh ...	2nd class	Tahsil Thanesar, except the jagir villages of Jasmir Singh & Kesar Singh.
(2) Sardar Gurdit Singh ...	Do.	Karnal Tahsil, except 41 villages specified in Punjab Govt. notification No. 610, dated 10th November 1902.
(3) Muhammad Umar Daraz Ali Khan.	1st class ...	Karnal Municipality, Gharaunda, Indri and Butana Thanas.
(4) Nawab Muhammad Ibrahim Ali Khan.	2nd class ...	Villages in the Kunjpura jagir.
(5) Muhammad Akram Khan ...	Do. ...	Tahsil Panipat.
(6) Hony. Capt. Jehangir Khan ..	3rd class ...	Kaithal Tahsil.

The district, though usually free from serious and violent crime, is notorious for cattle thefts. A considerable traffic in minor girls is carried on. For offences of all classes the percentage of convictions to cases admitted is not less than 59 per cent. The following tribes have been registered under the Criminal Tribes Act:—

(1) *Balochis.*—This tribe generally goes far afield to commit burglaries in the larger towns of other districts. Their operations

are seldom connected with this district. It is very difficult to obtain accurate information about their doings. It is generally believed that they absent themselves only for the purpose of committing burglaries.

Criminal justice.

(2) *Tagus.*—This tribe rarely attempts serious crime, but is addicted to petty theft. They are past masters of the art of disguise. They frequent fairs and *melas* where they pick pockets. They also travel far, particularly to Sind.

(3) *Sansis*—Seem to be settling down and many of them have taken to earning an honest livelihood, going in mainly for agriculture. The Sansi Kanjars, however, are greatly addicted to crime. They were only registered first in 1910.

(4) *Baureahs*—Changed their place of residence from Muzaffarnagar to the Karnal District. As they are addicted to serious crime they were registered by orders of the District Magistrate. Thirty-seven were registered in Karnal District and all absented themselves and mostly returned to Muzaffarnagar. Several were arrested and sent for trial under the Criminal Tribes Act, but all were acquitted. They only came to Karnal to escape registration and really belong to Muzaffarnagar, and so on being registered they at once absconded.

Civil justice.

The civil judicial work is supervised by the District and Sessions Judge of Karnal, who is the principal civil judicial officer in the district. He has under him two Subordinate Judges stationed at Karnal and two Munsifs stationed at Karnal and Kaithal, respectively. Practically all the civil work is done by them, but a few civil suits are sent to the Sub-Divisional Officer, Kaithal.

The following gentlemen have civil powers as Honorary Munsifs:—

Names of gentlemen.	Powers.	Jurisdiction.
(1) S. Jowala Singh ...	2nd class Munsif ...	Tahsil Thanesar, except the jagir villages of Jasmir Singh.
(2) Sardar Gurdit Singh ...	2nd class ...	Tahsil Karnal, except 41 villages specified in Punjab Govt. notification No. 610, dated 10th April 1902.
(3) Nawabzada Muhammad Umar Draz Ali Khan.	1st class ...	Certain villages of the Karnal Tahsil.
(4) Hony. Capt. Jahangir Khan...	3rd class ...	Kaithal Tahsil.
(5) Colonel Muhammad Akram Khan.	Do. ...	Panipat Tahsil.

On the whole civil judicial work is light. The people of Kaithal Tahsil are the most litigious.

CHAP. III. C.

Revenue Administration.

Customary Law.

The results of the enquiries made at last settlement for Kaithal and Pargana Indri formed Volume VIII of the Punjab Customary Law Series. Similar information for the Panipat Tahsil and Karnal pargana will be found in Volume VIII (*b*) of that series, and in regard to these two circles the late Sir Denzil Ibbetson's Karnal Settlement Report can also be consulted. The vernacular records of all these enquiries are preserved in the district office and have been revised in the present settlement.

Local Bar.

The legal practitioners working in the district are 3 Barristers, 5 1st grade and 16 2nd grade Pleaders, 8 Mukhtars and 7 Revenue Agents. Of these 5 Pleaders and 2 Mukhtars practise in Kaithal and 3 Mukhtars in Panipat. The rest practise in Karnal. There are 6 1st grade and 34 2nd grade petition-writers, of whom 22 work in Karnal, 8 in Kaithal, 4 in Thanesar, and 5 in Panipat.

Section C.—Revenue Administration.

PREVIOUS SETTLEMENTS.

Prior to British rule.

The administrative fabric reared by the Moghal Emperors was destined to crumble under the successive revolts and invasions of the eighteenth century. The country north of Delhi, impoverished by the armies of Nadir Shah, by the hordes of Mahrattas and the opposing Imperial troops, fell an easy prey to the Sikh marauders flushed with the victory at Sirhind. The northern part of the district was parcelled out between a number of Sikh chieftains and their adherents, of whom the most important were the Bhais of Kaithal, the Sardars of Thanesar and Ladwa, and the Pathan Chiefs of Kunjpura. The country south of Karnal was a no-man's land, seized sometimes by the Sikhs and sometimes by the Mahrattas and their adherents. Throughout the country the rule was the rule of the strongest. The state of things prevailing in the Delhi territory was graphically described by the Civil Commissioner in 1820 :—

"Revenue administration there was none ; the cultivator followed the plough with a sword in his hand ; the Collector came at the head of a regiment ; and if he fared well, another soon followed him to pick up the crumbs."

As for the rule, or rather misrule, in the Sikh States, Mr. Douie remarks* : "Their revenue system consisted in squeezing the weak, and getting as much as they could out of the strong."

* For a full description see Mr. Douie's Settlement Report, paragraph 17.

CHAP. III. C.

Revenue Administration.

The Panipat tahsil and Karnal pargana before Mr Ibbetson's settlement.

The preliminary stages in the formation of the old Panipat district, the northern part of which corresponded to the present Panipat tahsil and the Karnal pargana, were completed in 1824, and summary assessments had been introduced in almost all villages except those assigned to the Mandal family in the Karnal pargana.

These summary assessments were extremely oppressive, amounting to half the gross produce of the cultivation in well-developed villages, besides assessments of grazing and a tax on cattle. But in fact the assessments were purely nominal and were never collected. What could be got from the people was taken, and the remainder accumulated as balance. The mode of collection was as vexatious and extortionate as the assessment was oppressive. A vivid description of the chaotic administration is given in paragraph 125 of the Karnal Settlement Report by Mr. Ibbeston.

By 1828 the revenue survey of the district had been completed, and by giving firm ground to work upon had rendered impossible those gross inequalities of assessment which had till then been unavoidable. The half-share principle was abandoned, and the demand was estimated to absorb about a fourth of the gross produce. The demands, however, still averaged Rs. 3-8-0 to Rs. 4-3-0 on cultivation in small weakly estates, and Rs. 2-6-0 to Rs. 3-3-0 on the whole culturable area in fully peopled villages. Field-to-field records were prepared showing the proprietary and cultivating tenures. Direct management was still frequently resorted to and balances were large, but the general state of affairs was greatly improved. After the famine of 1833 the assessments were again largely reduced, and between 1836—39 the oustanding balances were remitted.

In 1837 the revision of settlement was ordered and finally reported on by Mr. Edmonstone in 1842. The last summary demands were reduced by 15 per cent. in the Khadar of Panipat and Karnal, and the incidence of the revenue per cultivated acre was Rs. 2-11-0. In the Bangar, where canal irrigation had brought prosperity, the current demand was raised by 6 per cent. and the incidence upon cultivation was Rs. 2-8-11. Mr. Ibbeston, after revising this settlement, considered that it had worked well, especially in the Panipat tahsil, but sufficient allowance had not been made for the inferior soil and the still more inferior cultivation of the Rajputs and Syeds who held the northern villages of the Karnal Khadar.

In the Bangar the settlement was soon vitiated by the deterioration of soil caused by the faulty alignment of the canal

CHAP. III. C.

Revenue Administration.

The Mandal tract.

by over-irrigation and flooding, and Mr. Ibbetson considered the remissions inadequate.

Up to 1847 the Mandal jagirdars collected their share of the produce in kind, and, possessing neither the name nor the authority of executive officers, were involved in constant struggles with the proud and quarrelsome Rajputs who compose the population of the majority of villages included in the grant. The unsatisfactory state of this tract was brought to the notice of Government from time to time, but it was not till 1847 that a settlement was sanctioned. The settlement was carried out by Mr. Gubbins, but the result was received with discontent by both the Mandals and the people, and in 1852 Mr. Ross was ordered to revise the work. Even this revision was not considered satisfactory, and in 1855 Mr. Ross again reported on the tract. He took the rates Captain Larkins was then using in his revision of the Kaithal settlement, increased them somewhat, and adopted them as a guide. But he made little use of them, and trusted rather to his knowledge of the tract and to the past history of each village. Sanction to the new arrangements was delayed by the Mutiny and the transfer of the district to the Punjab, but in 1860 the Punjab Government sanctioned the settlement as having already been in operation for some years, "on the distinct understanding that the rights of the Mandals are limited to an assignment of the revenue, and do not extend to the management of the land, and that in the event of calamities of the season, deterioration by saline efflorescence, or other reasonable cause, the zamindars shall receive the same equitable indulgences as are granted to Khalsa villages."

Mr. Ibbetson's settlement.

The settlements of the Panipat tahsil and of the Karnal pargana were revised by the late Sir Denzil Ibbetson in 1873—1879.

In the Panipat Khadar, the inhabitants of which were characterized as prosperous, though not inordinately so, the demand of 1876 was enhanced by 2·4 per cent., while the additional cesses raised the total increase to 6·4 per per cent., or 11·9 per cent. on the demand of the previous settlement. The incidence of the burden was redistributed so as to afford much-needed relief to many of the estates which had, from various reasons, become impoverished.

The soil of the Panipat Bangar, naturally most fertile, had been deteriorated by the faulty alignment of the canal and its distributaries, and by over-irrigation which had water-logged the country and had called into existence the evils of *reh* and swamp. The population had been debilitated by sickness. The

condition of villages was very unequal. Those on high ground which had not suffered from flooding were in the most prosperous condition, while the estates which had been most severely stricken by *reh* and swamp were in the most pitiable state.

Mr. Ibbetson's settlement.

The increase taken in this circle was only 1·4 per cent., while additional cesses raised the enhancement to 5·3 per cent. on the total burden of 1876 and to 6·2 per cent. on that of the previous settlement. Up to the revision of settlement, canal-irrigated land had been assessed like other land to a full assessment realized year by year irrespective of the area irrigated. The result was that villages which suffered from swamp and *reh* were forced to continue irrigation in order to meet a demand which had been excessive. The most noteworthy feature of Mr. Ibbetson's arrangements was the separation of a portion of the demand in the form of owner's rate charged on the area actually irrigated harvest by harvest. The people were thus in a position for the first time to reduce their irrigation if circumstances so demanded, instead of being forced to continue irrigation in order to meet the demand. In practice the owner's rate was fixed at half the occupier's rate, or rate charged by the Canal Department for water supplied.

In the Karnal Khadar, though the soil in general is not fertile, a considerable portion of it is always very sandy and poor. Since the settlements which Mr. Ibbetson was revising, the demand had been reduced considerably. The Jat and Ror villages Mr. Ibbetson considered on the whole prosperous, but some of the Taga, many of the Rajput, and all the Syed villages were greatly impoverished and sadly needed relief. In this circle a reduction of 8·7 per cent. on the current demand was given, which the imposition of the new cesses reduced to a relief of 4·4 per cent. on the total burden.

In the Karnal Bangar, as in the corresponding tract of Panipat, the soil, naturally fertile, had been seriously deteriorated by *reh* and swamp. The people were much reduced by sickness, but it was found possible to increase the demand, as two of the largest and best villages had improved. The increase taken was 12·4 per cent., or with cesses 16·9 per cent., on the demand of 1876, and 19·7 of the demand taken at the previous settlement. This circle, like the Panipat Bangar, benefited from the re-adjustment of the internal distribution, and by the introduction of the owner's rate system.

The Karnal Nardak was then an arid tract of scanty rainfall, and more than 90 per cent. of the cultivated area was under

CHAP. III. C.

Revenue Administration.

Mr. Ibbetson's settlement.

inferior sorts of grain. The cultivation, unsupplemented by the produce of cattle, was quite unequal to the needs of the population, but, on the other hand, there was ample room for expansion in the higher and drier soils. The population was multiplying rapidly, but was still the poorest in the district and their resources had been much impaired by the cattle epidemic of 1869. In this circle a reduction of 19·3 was given in the current demand, equivalent with cesses to a reduction of 16·8 per cent. of the total burden as it stood in 1876 and to a reduction of 13·5 on the demand of 1856.

Of this well-known settlement it is sufficient to say that the records and assessment attained a rare standard of accuracy and justice, and the author is gratefully remembered by all as the founder of a new era of settled prosperity.

The Indri pargana, Thanesar and Kaithal prior to Mr. Douie's assessment.

The Thanesar district, which eventually included the Pipli (now Thanesar) tahsil, the Indri pargana, and the Kaithal tahsil, was formed gradually by lapse on the failure of heirs, as in Radaur, Thanesar and Kaithal, by the deposition of the Raja of Ladwa in 1846 and by the reduction of the remaining chiefs to the status of jagirdars. As territories escheated to the British Government they were summarily settled, the assessment being in almost all cases most oppressive. The summary settlement of the lapsed Kaithal State was made by Sir Henry Lawrence in 1843 and revised by Captain Abbott four years later. This revision was intended to be the regular settlement, but was never reported to Government for sanction. The regular settlement was actually carried out by Captain Larkins in 1853--1856. The rest of Pipli and Indri had been assessed by Mr. Wynyard between 1848 and 1852. But it was soon found that the villages could not pay Mr. Wynyard's assessments, and Captain Larkins was ordered to revise them. He submitted his report in 1856, but other revisions were required, and the demand for Pipli and Indri was not finally fixed until 1862.

Mr. Douie, who revised Captain Larkin's Kaithal settlement, considered that it had worked well. As to the Pipli (Thanesar) tahsil, Mr. Douie thought that the Bet Markanda, and part of the Northern Chachra, the Bangar, and the Khadar had enjoyed a moderate degree of prosperity since the revision of 1862. The Pehowa Naili, now transferred to the Kaithal tahsil, the Southern Chachra, and part of the Northern Chachra suffered partly because of the unhealthy climate and partly because the full demand was collected in good and bad seasons alike without regard to the precarious nature of the harvests.

CHAP III. C.

Revenue Administration.

Mr. Douie's settlement.

Mr. Douie's revision, known as the Karnal-Ambala settlement, lasted from 1882 to 1889, and embraced the Kaithal tahsil and the Indri pargana of the Karnal district, and the Pipli and the Jagadhri tahsils of the Ambala District. The Pipli tahsil has since been transferred from Ambala to Karnal, and is now known as the Thanesar tahsil. The Jagadhri tahsil is still part of the Ambala district, and with it we are not now concerned.

The Kaithal tahsil.

In the Powadh circle, which includes most of the villages south of the Ghaggar, nearly all of which are in the jagirs of the Bhais of Arnauli and Sidhowal, the increase taken was 11 per cent.

Only a trifling enhancement of 3 per cent. was taken in the small Andawar circle on the watershed between the Sarusti and the Ghaggar. In neither of these circles had there been any large increase of cultivation or prosperity.

The Nardak and Bangar circles of Kaithal were then unirrigated, with the exception of a trifling amount of well irrigation in the villages bordering on the Naili tract. In the Nardak little more than ⅓rd was under cultivation, but this area and the number of ploughs at work was double what it had been thirty years before. Population had risen by 45 per cent. The crops, as in the Karnal Nardak, were inferior grains, and the people, chiefly Rajputs, depended largely on their cattle. The enhancement, excluding owners' rates, taken was 44 per cent. on the existing demand.

In the Kaithal Bangar, which occupies the western half of the southern uplands, nearly ⅔rds of the area was under tillage. In some of the largest estates no waste remained. The increase in population was 38 per cent. The crops were of the same class as in the Nardak, but tillage was more careful. Though the grazing had been much curtailed, the people managed to keep a large number of cattle. The increase taken amounted to 48½ per cent.

Mr. Douie considered that the demand in the Nardak and Bangar was fairly secure under existing circumstances. But the Sirsa Branch Canal was extended to the tracts, and the demand was paid with ease.

Owing to the tahsil boundaries then existing, Mr. Douie was compelled to divide the Naili tract into two circles, the Kaithal Naili and Pehowa Naili. In the Kaithal Naili, the area

CHAP. III. C.

Revenue Administration.

The Kaithal tahsil.

flooded by the Sarusti and the Ghaggar, there had been practically no changes, and the condition of the landowners was unsatisfactory. The demand was practically unaltered, though the internal distribution was much changed. In the Ghaggar estates large reductions were granted, but these were more than counterbalanced by increase taken in the Sarusti villages.

In the Pehowa Naili, flooded by the Umla and Sarusti, there had been an increase in cultivation and the number of ploughs, but cultivation had declined. As in the Kaithal Naili, the demand was left practically unchanged.

The small Pehowa Bangar circle had prospered on the whole; cultivation had increased by 46, and population by 20 per cent. since the settlement of 1856. An increase of 24 per cent. was taken.

The Pipli (Thanesar) tahsil.

Mr. Douie described the Pipli (now Thanesar) tahsil as on the whole far from prosperous and as having suffered much from previous over-assessment between 1850 and 1862. A comparatively small increase was taken, amounting to only 7 per cent. for the whole tahsil. But whereas the assessments of the prosperous Markanda Bet and the Northern Chachra were raised by 13 and 10 per cent. respectively, the large and unfertile circle known as the Southern Chachra was given a reduction of 13 per cent. Progressive assessments were given in villages which had been recently developed by Mali immigrants. Slight increases were taken in the small Bangar and Khadar circles.

The Indri pargana.

In Mr. Douie's opinion the Indri pargana, in spite of the reductions given at three revisions of settlement, was still not prosperous, and further relief was required. Population had declined. Well irrigation, except in the Khadar, had decreased. The value of land was small in the upland circles, and the outturn precarious. In the Khadar the land was poor, and the valuable canal sailab had lately been reduced by ⅗ths. There had, however, been a rise in the cultivated area, though, owing to the varying classification of cultivation and new waste, the exact increase is a matter of doubt. In the Khadar, where cultivation was stationary, a reduction was given of 7 per cent. on the existing demand, the greater part of the decrease being given in jagir estates which had not been given the full benefits of previous revisions. In the Bangar there was a slight increase of cultivation, but well irrigation and population had declined. The decrease in canal sailab was balanced by a considerable increase in canal irrigation.

CHAP. III. C.

Revenue Administration.

The Indri pargana.

The revenue was left practically unchanged. The population and cultivated area of the Nardak had increased, but well irrigation had declined. Produce was most precarious, and the fixed demand was retained. Fluctuating assessments were, however, given to 22 estates of the circle.

Fluctuating assessments.

The introduction of fluctuating assessments was a noteworthy feature of Mr. Douie's settlement. During settlement operations a number of estates in the Naili, the Southern Chachra and the Indri Nardak, were placed under fluctuating assessment. In the Indri Nardak circle this system was continued in 22 villages, and others were to be allowed the option of applying for it. The Deputy Commissioner, with the sanction of the Commissioner, was to have the authority to cancel the settlement of any estate of which more than one year's demand was in balance, and to collect the revenue at fluctuating rates. Similarly, in the Naili and Southern Chachra villages, the people were given the option of accepting at any time during the currency of the settlement an assessment fluctuating with the area of crops harvested.

It was realized at the time that the people would avoid a fluctuating demand if possible. The introduction of irrigation from the Western Jumna Canal caused the number of villages under fluctuating demand to be reduced. In the Naili only a few villages which had utterly broken down applied for a fluctuating demand.

Mr. Douie's settlement was considered eminently fair. The large increase of cultivation and the introduction of canal irrigation in the south of Kaithal has caused the assessment to become extraordinarily light. Elsewhere the demand has been paid without difficulty, except in the Naili and Southern Chachra, where conditions between 1895 and 1904 were such as to make any assessment difficult to meet.

General progress since the last settlement.

The intervening period between Mr. Ibbeston's and Mr. Douie's settlements and the settlement of 1904—1909 was marked by important changes. In 1879 Sir Denzil Ibbeston left a tract swamped and water-logged by the ill-designed alignment of the canal; cultivation was being ruined by saline efflorescence and the population racked with fever and ague. Within the next five years improvement had begun. The canal was realigned and the worst faults in the distribution of the water removed. The health of the people began to revive, and cultivation reverted to more

CHAP. III. C.

Revenue Administration.

General progress since the last settlement.

wholesome conditions. At the close of Mr. Douie's operations in 1889 the whole of the Nardak of Karnal and Kaithal was an arid tract, subject to continual recurrence of famine. The Kaithal Bangar was unirrigated. By 1891 the Sirsa Branch had begun to irrigate, to be supplemented by the Nardak Rajbaha in 1898.

These changes altered the face of the district. Except in Panipat, the tracts which have not shared in canal extension, whatever their previous prosperity, have remained comparatively backward and stationary. Their population has not increased, nor is their productiveness greater. On the other hand, the regions of chronic scarcity have become flourishing stretches of cultivation. Villages have grown out of all knowledge, and the value of produce harvested steadily year by year has increased enormously.

Besides these special advantages, Karnal has shared in the general development which has been in progress for the last 25 years. Railways have been built and roads improved. New markets have sprung up, and local trade now reflects the international movements of commerce. The rise in prices and the demand for labour have had a profound effect on the development of tenures and rents and the value of land. The rise in the price of cattle and of dairy produce is also a marked feature of the last 30 years.

The settlement of 1904—1910.

The last regular settlement was begun in October 1904 by Mr. A. M. Stow, Mr. R. Humphreys and later Mr. F. W. Kennaway were in charge of settlement operations in the Thanesar tahsil. The settlement was finally concluded in September 1910.

The chief problems to be dealt with in the reassessment of the district were—

(1) The enhancement to be taken on account of extended cultivation and irrigation, the rise in rents and prices, and the generally increased prosperity of the people.

(2) The assessment of canal-irrigated land.

(3) The treatment of the tracts subject to inundation from hill torrents.

Assessment circles.

According to the common practice in the Punjab, each tahsil was divided into assessment circles, roughly corresponding to the physical conformation of the country. The special report as to assessment circles was submitted in September 1905, and the

CHAP. III. C.

Revenue Administration.

Assessment circles.

Settlement Commissioner sanctioned the following sub-divisions of each tahsil for the purposes of assessment:—

	Panipat.	Karnal.	Thanesar.	Kaithal.
1.	Khadar.	Khadar.	Khadar.	Nardak.
2.	Bangar.	Bangar Karnal.	Bangar.	Bangar Kaithal.
3.	...	Bangar Indri.	Bet Markanda.	Bangar Pehowa.
4.	...	Nardak.	N. Chachra.	Naili.
5.	...	...	S. Chachra.	Indarwar.
6.	...	...	...	Powadh.

It is not necessary to detail here the extent to which these sub-divisions differ from those made at previous settlements. The changes were few and were described in the special report referred to. As mentioned in the preceding paragraph, the Financial Commissioner subsequently ordered the old assessment circles, Khadar, Bangar and Nardak, to be retained for the two parganas of the Karnal tahsil, Karnal and Indri, instead of one Khadar and one Nardak circle for the tahsil. The town lands of Panipat and Karnal were assessed separately. It will be convenient if the statistics for these two urban tracts are maintained separately in future.

Soils.

Each assessment circle was further sub-divided according to qualities of different soils and their facilities for irrigation. The question of soils was dealt with in the special report on assessment circles referred to above. The following soil classification was sanctioned by the Settlement Commissioner :—

Irrigated	1. Chahi	...	Irrigated by wells.
	2. Nahri	...	Irrigated by canals.
	3. Abi	...	Irrigated from tanks.
Unirrigated	4. Sailab.		
	5. Barani.		
	6. Bhur.		
	7. Tibbi.		
	8. Dahr.		

Chahi irrigation was further sub-divided into irrigation from bricked and from unbricked wells, and in the case of nahri, distinction was made between irrigation by lift and by flow. Soil was considered chahi or nahri which had been actually irrigated in two or more harvests during the four years preceding settlement and for which permanent means of irrigation still existed.

CHAP. III. C.

Revenue Administration.

Soils.

Irrigation from tanks is rare and entails great labour. It is, however, useful in assisting to ripen the rice crops if the late rains are unfavourable. Numerous ponds and jhils which have survived the drainage system in the Karnal and Panipat tahsils are let to Jhinwars for sanghara (water nut) cultivation and bring in considerable rents to their owners. The best description of the unirrigated soils of the district is given in paragraph 4 of Mr. Ibbetson's Karnal Settlement report. He says: "There is no real clay, the soil varying from stiff loam to pure sand. The stiffest loam is found in the hollows and drainage lines, where the action of the water has washed out the sandy particles. It is locally known as dakar and is differentiated by the clods not crumbling in the hands. The sandiest soil is known as bhur. It is found in the riverain tract, chiefly in patches lying in the beds of old river channels and also occasionally on the watershed, where it would seem to have been collected by the wind. It includes all soils that do not form clods under the ploughs. Intermediate soils are classed as rausli and vary in quality between the two extremes."

In assessment no difference was made between *dakar* and *rausli*, but both *bhur* and *dahr* (a harder kind of *dakar* yielding crops of coarse rice, and failing that nothing) were taken into consideration in assessing the villages where these soils were found. The term *tibbi* was confined to the cultivated sand-hills of the Powadh circle.

The standard of assessment.

The standard of assessment has been fixed by Government as half the rental or net assets calculated on the basis of rents either in cash or produce paid by tenants-at-will to their landlord.

Rents both in cash and in kind are found in all parts of the Karnal district, and in most circles it was possible to ascertain the standard of assessment by reference to both guides.

Estimate of half-net-assets standard by cash rental.

A basis for the cash rent estimate was obtained from the statements of rents drawn up after the entries for each holding had been carefully attested during the preparation of the records. These rents were analyzed under the following heads :—

(*a*) Rents paid by mortgagors to mortgagees.

(*b*) Rents paid by tenants-at-will to mortgagees.

(*c*) Rents paid by tenants-at-will to owners.

Rents under head (*a*) were neglected as being complicated by questions of interest due on the mortgage and by other relations between the original owner and the mortgagee. The Settle-

CHAP. III. C.

Revenue Administration.

Estimate of half-net-assets standard by cash rental.

ment Officer's proposals were based entirely on rents coming under head (*c*), which he considered gave the truest idea of the real letting value of the land free from all suspicion of rackrenting for immediate profit. This list was carefully scrutinized, and all rents were eliminated which were believed to be falsely stated, rents specially low on account of relationship or services rendered by the tenants, or for land brought under cultivation for the first time as well as the high rents of fruit gardens, or land leased for special garden crops, and all zabti rents. The result was considered the normal rent. As owners generally keep the best land for their own cultivation, it could be safely assumed that land cultivated by the owners themselves could be rented at these normal rents. Accordingly, to ascertain the total rental of a circle, the normal rents were applied to the recorded cultivated area, an allowance, which usually amounted to 15 per cent. on unirrigated, to 10 per cent. on irrigated land, was made for land unlet owing to fallows and uncollected rents.

The Financial Commissioner, however, considered that there was no justification for omitting the rent on land let by mortgagees to tenants-at-will, because these rents were voluntarily paid by the tenants, and really represented his estimate of the letting-value of the land. Such rents were usually higher than those paid to owners, and their omission led to a result below the truth. The Financial Commissioner, therefore, increased the pitch of the Settlement Officer's normal rents by including in them rents paid by tenants-at-will to mortgagees, and his action was approved by Government.

The Financial Commissioner was also of opinion that a reduction of 10 per cent. should be allowed from these increased normal rents to cover the cost of collection and management and to provide a margin of safety. To this course, however, Government did not agree. The Settlement Officer had applied his rent rates to the recorded area of each soil. The Financial Commissioner, however, applied his higher rates to an average irrigated area of well and canal land which was considerably lower than the recorded area.

The assessment standard by cash rents therefore amounts to the result of applying ½ the normal cash rent as enhanced by the Financial Commissioner (less the deduction for fallows and uncollected rents) to an average irrigated area.

Estimate of half-net-assets by rents in kind.

The calculation of the assessment standard to be deduced from rents in kind is more complicated. The first factor to be determined is the area of crops harvested in a circle. From this

CHAP. III. C.

Revenue Administration.

Estimate of half-net-assets by rents in kind.

area must be deducted crops grown solely for fodder and the outturn of the remainder must be estimated. Applying to this result the sanctioned commutation values, the total value of the crops is arrived at. From this amount must be deducted the value of customary payments to village menials which are made before the landlord can take his share of the produce, one-half of which is the Government standard of assessment.

(a) The area of crops.

Throughout the district the area of crops was taken to be the average area matured during the period 1900-05. This cycle may be considered as generally representing the ordinary agricultural condition of the district. One excellent season (1900-01) was balanced by one extremely bad (1901-02), the harvest of one year (1902-03) was indifferent and two were very fair (1903-05). The choice of these years was, if anything, advantageous to the zamindars, especially in the Nardak circles of Karnal and Kaithal, where irrigation expanded considerably after 1905. To enable allowance to be made for this improvement, statistics were also given for the year following 1905 up to the date of submitting the report.

(b) Deductions for fodder.

Crops grown solely for fodder such as *chari*, *gowara* and *methi* were excluded from calculation. No deduction was made for crops cut green, but on the other hand nothing was added to the estimate on account of the share of straw which the owner usually, but not invariably, takes along with his share of grain.*

(c) Outturn of crops.

The estimates for this part of the calculation were based on the outturns adopted at the last settlement, those used in the recent settlements of adjoining tracts, the results of crop experiment, and the Settlement Officer's enquiries during village inspections. Since the settlement of Panipat and the Karnal pargana the iron sugar-crushing mill had been universally adopted, and it was therefore possible to assume a higher outturn for *gur* than was possible 30 years ago. The decrease of heavy canal irrigation and of jungle floods justified a decrease in the assumed outturn of rice, the cultivation of which receives less attention than formerly. Crop experiments were conducted over a considerable area, and were of assistance in checking assumptions, but in most cases the yields assumed were those employed for similar calculations at last settlement.

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*The Bet Markanda circle forms an exception to this statement. There Mr. Kennaway took into account the landlords' share of the valuable wheat straw.

CHAP. III. C.

Revenue Administration.

(c) Outturn of crops.

The outturns actually adopted in this settlement for the principal crops are given below in maunds to the acre :—

Statement showing the yields in maunds of principal crops.

—	Wheat.	Gram.	Ziri.	Maize.	Jowar.	Cotton.	Cane.
Bangar ...	14½	12½	13	13	7	7	26
	8	8	9	7	5	4	15
Khadar ...	13½	11½	12	13	7	7½	27½
	7	8	9	7	4	4	15
Khadir Indri and Karnal.	11½	11	12	12½	7	6	7
	5	6	7½	7	2½	6	7
Bangar Indri ...	13½	11	9	15	7	6	7
	5	6	7½	8	4		
Bangar ...	13½	11	13½	15	7	6	7
	5	6	7½	8	4		
Nardak Indri and Karnal.	12½	11	12	14½	7	6	7
	5	6	7½	8	3		
Bet Markanda .	12	10	10	12½	3½	6-4	7
	7	6	7½	7½	2½		
Khadar ...	12	10	10	12½	3½	6-4	6-4
	6	6	7½	7	2½		
Bangar ...	12½	10	10	15	3½	6-8	6-12
	6	7	7½	8	2½		
N. Chachra ...	12	8	10	14	...	6-4	6-12
	6	7	7½	7	2½		
S. Chachra ...	11	7	10	12½	4½	5-12	6-4
	5	5	7½	7	3		
Nardak ...	12	12	12	12½	6	7	24
	5	6	6	10	4	3½	...
Bangar ...	12	12	12	12½	6	7	24
	5	6	...	10	4	3½	...
B. Pehowa ...	12	12	12	12½	6	6	18
	5	6	5	10	4	3	18
Naili ...	11	12	12½	12½	6	6	24
	6½	7	8	10	4	3	
Andarwar ...	13	6	10	12½	6	7	...
	5		...	10	4	3½	...
Powadh ...	12	6	10	15	5	7½	24
	5	6	6	12½	4	1¾	

Mr. Douie, however, when reviewing the Karnal Report as Settlement Commissioner, doubted whether the estimates of unirrigated jowar and gram, and perhaps wheat, were not too low. He

CHAP. III. C.

Revenue Administration.

therefore added 20 per cent. to the half-net-assets estimate for barani crops in the Khadar and Indri Bangar, 15 per cent. in the Nardak, and 10 per cent. in the Karnal Bangar.

(d) Valuation of produce.

For certain crops cash rates per acre were taken, to ½ of which Government is entitled :—

Cotton.	Sugarcane.	Vegetables.	Chillies and spices.	Tobacco.	Poppy.	Indigo.	Sanni and hemp.
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.	Rs. A. P.	Rs.	Rs.
6 4 0	6 12 0	4 8 0	16	5 4 0	6 12 0	7	7
7 4 0	9 10 0	7 0 0	...	16 0 0	...	...	...

No valuation of the straw was made. It was considered that the whole might be set off against the large expense incurred in the feed of bullocks.

(e) Deductions for village menials.

The principal menials paid from the common heap are the Chamar, who provides the leather work for the agriculturists, the Badhi and Lohar, who furnish respectively the wood and iron work, and in the Khadir tracts the potter, who makes the earthen pots required for the Persian wheel. The value of the sheaves taken by the reaper as his daily wage has also to be allowed for, as well as doles by way of charity to Brahmins and Fakirs. In the Karnal tahsil 12 per cent. was allowed to cover the cost of these customary payments, stress being laid on the dearth of labour and character of the Rajput population. In Panipat and Kaithal only 10 per cent. was deducted. Mr. Kennaway in Thanesar allowed as much as 12 to 14 per cent.

(f) Owner's share of the produce.

The owner's share of the produce remaining after the deduction for fodder crops and menials' dues varies throughout the district. One-half or two-fifths is usual in the rich wheat lands of the Bet Markanda and Thanesar Khadar. The one-third share is almost universal in the Panipat Khadar and the Bangar circles of Karnal and Panipat, one-half and two-fifths being taken only when the landlords have helped to defray some of the minor expenses of cultivation or have worked with the tenant in the field. The one-fourth share is the rule in the Nardak tract and generally throughout the Kaithal tahsil. On canal-irrigated

CHAP. III. C.

Revenue Administration.

land in Panipat and also in the Panipat Khadar the owner taking one-third of the produce has also to pay one-third of the land revenue cesses and canal rates, and if he takes one-third of the fodder has to provide a similar share of the seed. For sugarcane the tenant usually pays at a rate lower than that prevailing in the village for other crops.

Rents in grain.

In Panipat town and in some villages of the Panipat Khadar and Karnal pargana, the owner takes a rent in grain usually fixed at so many maunds of maize and wheat in the proportion of one-third maize and two-thirds wheat. This tenure is known as "Ijara." To ascertain the theoretical half net-assets standard in this case all that is necessary is to calculate the value of the total amount of grain which is paid as rent according to the sanctioned commutation prices.

Checks on the correctness of the half-net-assets estimate.

The half-net-assets standards calculated by cash and kind rents respectively were then compared and checked with the result given by enhancing the existing demand in proportion to the percentage of increase in the cultivated area and the rise in prices. A further check was afforded by the statistics of the price obtained for land at various periods since last settlement. The price per rupee of land revenue assessed on the land sold, or, in other words the number of years' purchase which the buyer of land was prepared to pay, was worked out for quinquennial periods. It was assumed that the profit which an intending purchaser of land expected was not less than 4 per cent., and that he did not wish to pay more than 25 times the annual profit for the land. The proportion by which the number of years' purchase exceeded 50 indicated the extent to which the existing revenue might be enhanced.

Actual assessment imposed.

A suitable assessment for the circle, and rates for each class of soil were then proposed, and at the same time to assist the distribution of revenue over villages crop rates were devised on the basis of the rates given by the produce estimate.

Assessment of canal lands as proposed by the Punjab Government.

The principles which should govern the assessment of canal-irrigated land were enunciated by Sir James Wilson as Financial Commissioner in his Review of the Gohana Tahsil Assessment Report, and his conclusions were accepted by the Punjab Government. Sir James Wilson's proposals practically amounted to continuing the policy followed since 1878 in the districts irrigated by the Western Jumna Canal, under which the fixed land revenue represents the assessment the land can pay when unirrigated, and whatever is assessable on irrigation is

CHAP. III. C.

Revenue Administration.

Assessment of canal lands as proposed by the Punjab Government.

taken in the form of a fluctuating rate on actual irrigation. The difference between the rent rates of irrigated and unirrigated land clearly indicated what was the increase of net profits in the shape of rent to a land-owner from the use of canal water. Enhancements of the total charges for the use of canal water were made to amount as nearly as possible to half this increase of net profits. But at the same time it was ordered that the rate of the fixed assessment on canal land should exceed that for unirrigated land. Because even though the excess profits of canal irrigation were assessed by a fluctuating canal advantage rate this did not put on terms of equality land which can never be irrigated and land which is commanded by the canal and can be irrigated when the owner wishes. A higher fixed land revenue on land irrigated by the canal allows for the greater security of its crop in bad seasons; for in a year of drought it will have at least some crop and some fodder and high prices will be obtained for its surplus produce. Beyond the differentiation made at last settlement there were practically no guides as to the extent to which the rate of the fixed nahri assessment should exceed that on unirrigated soil. Some indication, however, of the amount to be set apart as a fluctuating demand was afforded by the average collections of owner's rate, which represent the fluctuating demand imposed on the owners and now transferred by them to the tenants.

Final orders of the Government of India as to canal assessment.

The Government of India, however, disapproved of the proposals to take a portion of land revenue assessment in the form of an addition to the canal water rate, and consequently no enhancement has been made in the total rates paid for canal irrigation. But in their letter No. 256, dated 19th November 1909, the Punjab Government ordered that the Nahri rate sanctioned should not be applied to any average irrigated area, but to the area recorded as Nahri in the record-of-rights. The result of this order was to increase the sanctioned assessment of the district by Rs. 15,920. Thus the only wet assessment imposed on Nahri land as a result of settlement operations was the portion of the fixed demand representing the difference in circle rates for nahri and barani respectively.

Total results of reassessment.

The following table shows the total results of the reassessment. The demand actually announced is compared below with the demand of the last year of the expiring settlement and the demand sanctioned by the Government for each tahsil together with the additional canal assessment necessitated by the order conveyed in the Punjab Government letter No. 256, dated 19th November 1909. Of this demand, Rs. 67,980 must be con-

CHAP III. C.

Revenue Administration

Total results of reassessment.

sidered a fixed assessment on canal land, that is to say the difference in circle rates for Nahri and Barani respectively :—

1	2	3	4	5	6	7
Tahsil.	Circle.	Old fixed demand.	Sanctioned new fixed demand.	Final new demand.	Increase per cent. of column 5 on column 3.	REMARKS.
		Rs.	Rs.	Rs.		
PANIPAT.	Panipat town	25,605	32,000	32,805	28	
	Khadar	1,20,034	1,50,000	1,49,974	25	
	Bangar	1,62,912	1,94,800	1,96,000	20	
	Total tahsil ...	3,08,551	3,76,800	3,78,779	23	
KARNAL.	Khadar Karnal	48,752	58,000	59,005	21	
	Karnal town	8,093	13,000	13,000	51	
	Bangar Karnal villages ...	32,747	41,500	42,600	30	
	Nardak Karnal	33,662	52,000	53,212	58	
	Khadar Indri	80,915	85,000	88,046	8	
	Bangar Indri	49,875	54,000	55,315	11	
	Nardak Indri	23,901	27,000	27,555	15	
	Total tahsil ...	2,77,945	3,30,500	3,38,733	22	
THANESAR.	Khadar	27,400	31,142	31,035	13	
	Bangar	41,068	42,746	42,674	4	
	Bet Markanda	94,464	1,20,471	1,19,960	27	
	North Chachra	51,070	65,112	64,994	27	
	South Chachra	26,492	35,251	35,145	33	
	Total tahsil ...	2,40,494	2,94,722	2,93,808	22	
KAITHAL.	Nardak	53,756	1,14,400	1,14,225	112	
	Bangar Kaithal	69,075	1,16,220	1,16,735	69	
	Bangar Pehowa	12,067	15,000	15,480	28	
	Naili	61,465	61,500	62,675	2	
	Andarwar	16,234	16,000	16,630	2	
	Powadh	28,368	31,000	32,070	13	
	Total tahsil ...	2,40,965	3,54,120	3,57,815	49	
	TOTAL DISTRICT ...	10,67,955	13,56,142	13,69,135	28	

In villages where the increase was large, the whole demand was not imposed immediately. Part of the assessment was deferred for 5 and in some cases for 10 years.

CHAP. III. C.

Revenue Administration.

ASSESSMENT IN TAHSILS.

(a) *Panipat.*

General.

The whole tahsil is wonderfully secure, for, in addition to its resources in the way of irrigation, it enjoys an average rainfall of 23 inches, the annual fall having been below this figure in only 7 of the 22 years ending with 1906-07. In such years the wells are worked to their utmost capacity in the Khadar, and all the canal water that can be got is utilized in the Bangar. Few suspensions and no remissions of land revenue were necessary on account of drought during the term of the expiring settlement.

Cultivation and irrigation.

Cultivation increased by 13 per cent., in the Khadar and by 15 per cent. in the Bangar, since last settlement. In the former circle the number of wells in use grew from 2,416 to 2,770, with a corresponding rise of 15 per cent., in the area irrigated from them, which, in view of the care taken to manure and practically to make the soil of the Khadar well lands, is a substantial gain. The land that has been brought under the plough in the Bangar is of good quality, but there has been no increase of irrigation in the circle. The Panipat Bangar is one of the favoured tracts that could afford to endure a reduction, but, while gaining by the stoppage of water-logging, the tract now receives less canal water than it did. The small area irrigated from wells in the Bangar at last settlement has become smaller still, which shows that the restriction of canal water has not yet been felt to such an extent as to induce the cultivators to bring old wells into use. Numbers of such wells might yet be brought into work, though not without difficulty and expense. But there can be no doubt that these would be increased if there was a real want of water for irrigation.

Population and cattle stock.

The population is very dense, being estimated at 717 per square mile of cultivation in the Khadar and 578 in the Bangar. But it is no denser than at settlement, and the average size of proprietary holding (7·4 cultivated acres for the tahsil) is not minutely small. The Bangar Circle has suffered severely from plague since the last Census, and its population is now less than at last settlement. The Khadar has suffered little. The figures for cattle are satisfactory. The decrease in ploughs in the Bangar is curious, considering that cultivation has increased in the circle.

CHAP. III. C.

Revenue Administration.

Transfers.

The selling price of land is high in the Khadar, especially in Panipat town. In terms of land-revenue the price has risen from 47 fold to 84 fold, and the mortgage money from 40 to 47 fold in Panipat town lands, while in the rest of the Khadar circle the sale price has risen from 33 to 42 fold, though the mortgage consideration has remained stationary at about 50 times the land revenue or has been decreased. In the Bangar the sale money was from 27 to 50 fold in 1895 1900, but has since dropped to 22 fold. The mortgage money is 50 times the land revenue in the last 5 years compared with 43 in the first. In the matter of mortgages the money-lenders, among whom Brahman Bohras from Rajputana are notorious, are the only holders, and they hold land in mortgage from every agricultural tribe. In sales the agricultural community have held their own, and the sale of the Skinner estates has added somewhat to the possessions of the old proprietors, though more to those of money-lending classes.

Crops and yields.

The chief features of the history of the cropping of the tahsil are the decrease of rice cultivation, marking diminished swamping and the large development of cotton and fodder crops since last settlement. The area under wheat has remained steady, while that under cane, though more subject to fluctuation, has somewhat increased in both circles. The nature of the cropping in the Khadar emphasises the fact that it is a well circle and a rich one growing valuable crops. The Bangar cropping, thanks to the large proportion irrigated, approximates to it. Higher rates of yields in Panipat than in Karnal are justified by the greater fertility of the tract.

Tenancy and cash rents.

More than half of the land in the Bangar, and more than two-thirds in the Khadar are cultivated by the proprietors themselves. But a fair idea of the renting value of the whole can be obtained from the cash rents paid on one-fifth of cultivation in the Khadar and one-twelfth in the Bangar. On one-twelfth of the Bangar cultivation and on nearly 5 per cent. of the Khadar, rents are paid in kind, and the produce estimate affords a useful check on the inferences drawn from cash rents. At last settlement Mr. Ibbetson wrote that true rent was unknown in the tract. His rent rates of Rs. 4-1-0 and Rs. 3-7-0 per acre in the Khadar and the Bangar were based on acreages of 961 and 536, respectively, paying partly cash and partly fixed grain rents. True competition cash rents now average Rs. 6-2-0 per cultivated acre in the Khadar and Rs. 4-13-5 in the Bangar. The Financial Commissioner included rents paid by tenants-at-will to mortga-

CHAP. III. C.

Revenue Administration.

Tenancy and cash rents.

gees in his calculation of normal rents with the following results :—

	Khadar excluding Panipat town.		Bangar.	
	Area on which rents are paid.	Average rent paid.	Area on which rents are paid.	Average rent paid.
		Rs. A. P.		Rs. A. P.
Chahi	5,015	7 3 0	332	8 7 0
Nahri	...	...	1,429	5 11 0
Barani	1,645	5 0 0	2,384	4 4 0

About 5 per cent. were allowed on unirrigated land in the Bangar to cover uncollected rents and fallows. For the purpose of calculating the half-net-assets estimate by cash rents the following rates were used, applied in the case of Chahi and Nahri land to actual average irrigation :—

	Khadar exculding Panipat town.			Bangar.		
	Area in acres.	Half-net-assests rate.	Resulting assessment.	Area in acres.	Half-net-assests rate.	Resulting assessment.
		Rs. A. P.	Rs.		Rs. A. P.	Rs.
Chahi (actually irrigated)	37,220	3 8 0	1,30,270	4,000	4 3 0	16,750
Nahri (actually irrigated)	...	..	...	43,000	2 12 0	1,20,938
Barani and Sailab ...	20,824	2 8 0	52,060	65,779	2 0 0	1,31,558
Bhur	1,754	1 8 0	2,631	...	...	...
Total ...	59,798	...	1,84,961	1,12,779	...	2,69,246

The produce estimate in the Khadar amounted to Rs. 2,00,991, and in the Bangar as calculated by the Financial Commissioner to Rs. 2,79,720.

Half-net-assests standard and assessment.

The half-net-assests standard obtained by a comparison of these two estimates was considered to be about Rs. 1,94,000 in the Khadar. In the Bangar the similar standard was taken by

CHAP. III. C.

Revenue Administration.

Half-net-assets standard and assessment.

the Financial Commissioner to be Rs. 2,80,000 which represented a full wet land revenue assessment, on the assumption that the total fluctuating canal charges remained practically as they were. Of the amount thus estimated for the Bangar Circle the Financial Commissioner proposed to take Rs. 1,90,000 as a fixed dry demand, being an increase of 17 per cent. over the old fixed demand of Rs. 1,62,912. He considered that Rs. 48,000 should be added to the existing fluctuating canal charges by increasing the scheduled rates for certain crops. The total of the fixed dry assessment, together with the proposed addition to the fluctuating canal charges, amounted to Rs. 2,38,000 or 85 per cent. of the half-net-assets estimate. In the Khadar the Financial Commissioner proposed a fixed assessment of Rs. 1,50,000, or 77 per cent. of the half-net-assets estimate. These proposals were accepted by the Punjab Government, but enhancements of canal rates were recommended to the Government of India on a lower scale than was contemplated by Sir James Wilson.

As explained above the proposals of the Punjab Government were not accepted by the Government of India. No increase was made in the canal water rates, and the sanctioned demand was limited to Rs. 1,50,000 for the Khadar (excluding Punipat town), Rs. 32,000 for Panipat town and Rs. 1,90,000 for the Bangar. In accordance with the orders conveyed in Punjab Government letter No. 256, dated 19th November 1909, an addition of Rs. 4,800 was made to the amount previously sanctioned as the fixed assessment for canal land. The total wet assessment on land, *i.e.* the difference in circle rates for nahri and barani, respectively, is calculated to amount to Rs. 19,184. As most canal villages distributed the revenue by an all-round rate, this calculation is merely nominal.

The assessment actually imposed in each circle was Rs. 32,805 in Panipat town, Rs. 1,49,974 in the rest of the Khadar, and Rs. 1,96,000 in the Bangar circle.

(*b*)—*Karnal.*

Assessment circles

The assessment orders for the Karnal tahsil may be summarized under the following heads—

(*i*) Pargana Karnal settled by Mr. Ibbetson 30 years ago—

(1) Karnal Bangar.

(2) Karnal town lands.

(3) Karnal Khadar.

(4) Karnal Nardak.

CHAP. III. C.

Revenue Administration.

Karnal Bangar (excluding Karnal town.)

(*ii*) Pargana Indri settled by Mr. Douie 20 years ago—

(5) Indri Khadar.

(6) Indri Bangar.

(7) Indri Nardak.

This circle is very similar to the Panipat Bangar. Since Mr. Ibbetson's settlement in 1880, its condition has very much improved owing to the realignment of the canal and the substitution of a dry fixed assessment and an owner's rate on area actually irrigated for the previous wet fixed assessment. Except for a comparatively small area, the water-logging from which the tract suffered so much has ceased and the health of the people greatly improved. Population increased by over 7 per cent. during the currency of the last settlement, and cultivation by 16 per cent. The area recorded as irrigated by the canal decreased from 19,951 acres to 16,054, but, with regard to the previous evils due to over-irrigation, this is a matter for congratulation, and in a dry year half the cultivated area is still actually irrigated by the canal. For 7 per cent. of the total cultivated area figures existed on which to base a cash rent estimate. The *chahi* rented area is small and includes excellent land near Karnal, so that it was not safe to apply the high chahi rent as it stood to the whole circle. The cash rents for the purposes of the estimate were taken as follows :—

	Rent per acre.		
	Rs.	A.	P.
Chahi	6	0	0
Nahri	4	12	0
Barani	3	2	0

These rents were much lower than in the Panipat Bangar. The resulting rates were applied to the average area actually irrigated in a typical series of years. The area actually irrigated from wells on the average of the 13 years, 1895—1908, which included both wet and dry years, was 777 acres, and the high chahi rent-rate was applied to only 700 acres.

The average area actually irrigated by the canal in the 8 years after 1900, when the remodelling of distributaries may be considered to have taken effect, was only 11,613 acres, so that it was not considered safe to apply the high nahri rent to more than 12,000 acres. The remaining areas were treated as barani. The half-net-asset estimate based on rents paid in kind gave the assessable demand as Rs. 46,682. But the Financial Commissioner

CHAP. III. C.

Revenue Administration

discarded the produce estimate as untrustworthy, and assumed, on the basis of the cash rents, that a full fair wet assessment of the circle would be about Rs. 58,000. His proposals for the fixed dry land revenue of this circle were :—

Karnal Bangar (excluding Karnal town).

Soil.	Area in acres.	Revenue rate per acre.	Resulting assessment.
		Rs. A. P.	Rs.
Chahi (actually irrigated)	700	2 8 0	1,750
Nahri (ditto) ...	12,000	1 8 0	18,000
Barani	17,883	1 2 0	20,118
Total	30,583	...	39,868

The Settlement Officer was instructed to aim at a fixed dry assessment for the circle of Rs. 40,000, an increase of 22 per cent. over Mr. Ibbetson's dry assessment of Rs. 32,747, while cultivation had increased by 16 per cent. and prices risen by more than 22 per cent. The rates proposed by Financial Commissioner compared as follows with those employed by Mr. Ibbetson for his dry assessment in this circle :—

Soil.	Half-net-assets rates now estimated.		Mr. Ibbetson's dry rates.		Rates proposed by the Financial Commissioner.	
	Panipat.	Karnal.	Panipat.	Karnal.	Panipat.	Karnal.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Chahi	4 3 0	3 0 0	2 12 0	2 4 0	3 8 0	2 8 0
Nahri	3 4 0	2 6 0	1 13 0	1 5 0	1 13 0	1 8 0
Barani	1 14 0	1 9 9	1 6 0	1 1 0	1 8 0	1 2 0

In accordance with the orders conveyed in Punjab Government letter No. 256, dated 19th November 1909, an addition of Rs. 1,500 was made to the previously sanctioned demand as the fixed assessment of canal land. The actual assessment imposed on this circle was Rs. 42,600.

CHAP. III. C.

Revenue Administration.

Karnal town lands.

Of the lands included in mauza Karnal no less than 40 per cent. are leased on true competitive cash rents, so that there was an unusually good basis for a cash rent estimate. The average area actually irrigated from wells was only about 1,400 acres against the recorded *chahi* area of 2,084 acres. In the case of nahri the actual irrigation of the last two years greatly exceeded the recorded nahri area, owing to double cropping, and the high nahri cash-rent-rate could not be applied to more than the recorded area. The half-net-assets estimate therefore was—

Soil.	Area in acres.	Half-net-assets rate.	Resulting estimate.
		Rs. A. P.	Rs.
Chahi (actually irrigatad)	1,400	5 0 0	7,000
Nahri (recorded area)	1,850	4 8 0	8,325
Barani	3,548	1 10 0	5,766
Total ...	6,798	...	21,091

This estimate may be roughly checked as follows :—40 per cent. of the cultivated area actually pays cash rents aggregating Rs. 17,353, and if it is assumed that the remaining area could be let at similar rates, the renting value of the whole estate is Rs. 43,382.

The old fixed assessment was only Rs. 8,093,— an extraordinarily light assessment. In the face of the rent statistics and in fairness to the owners of outlying villages and to the Mandal jagirdars, the Financial Commissioner raised the proposed fixed assessment of Rs. 11,500 to Rs. 13,000.

No addition was made to the fixed assessment of canal land in this estate, as the area recorded as canal irrigated had already been fully taken into account.

Karnal Khadar.

The average area actually irrigated on the average of the 13 years 1895 – 1908 was 13,800 acres, and 14,000 acres were assumed as assessable to the chahi rate. The nahri area is small, the recorded area being only 2,296, acres. For a cash-rent esti-

CHAP. III. C.

Revenue Administration.

Karnal Khadar.

mate an unusally good basis existed in the cash rents. The figures are as follows :—

Soil.	Normal rents paid to owners.		Rents paid by tenants-at-will to mortgagees.		Total rents.		
	Area.	Rent paid.	Area.	Rent paid.	Area.	Rent paid.	Average rent per acre.
	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Rs. A. P.
Chahi	3,511	21,154	1,026	6,801	4,537	27,955	6 2 0
Nahri ...	356	2,189	60	379	416	2,568	6 3 0
Jumna sailab ...	452	1,730	5	30	457	1,760	3 14 0
Barani ...	1,321	5,143	245	1,398	1,566	6,541	4 3 0

About 10 per cent. was deducted on sailab and barani land to allow for fallows and uncollected rents ; and, as the rents on sailab and barani were much the same, these classes were lumped together. The resulting half-net-assets cash-rent estimate was as follows :-

Soil.	Area in acres.	Half-net-assets rate.	Resulting estimate.
		Rs. A. P.	Rs.
Chahi (actually irrigated)	14,000	3 0 0	42,000
Nahri	2,296	3 0 0	6,888
Barani and sailab	15,218	1 14 0	28,534
Total cultivated ...	31,514	...	77,422

The half renting value of the whole circle was estimated at Rs. 75,000 by the Financial Commissioner. The old assessment was Rs. 4,875. Population and plough cattle have increased in the last 30 years, and the circle is, as a whole, prosperous and secure. The fixed assessment proposed by the Financial Com-

CHAP. III. C.

Revenue Administration.

Karnal Khadar.

missioner and accepted by Government, and its distribution by rates are shown below :—

	Area in acres.	Mr. Ibbetson's revenue rates.	Half-net-assets rates.	Revenue rates.	Resulting assessment.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.
Chahi (actually irrigated).	14,000	2 2 0	3 0 0	2 6 0	33,250
Nahri (ditto)	2,296	...	3 0 0	1 10 0	3,731
Barani and sailab ...	15,218	1 4 0	1 14 0	1 6 0	20,925
Total cultivation ...	31,514	...	...	...	57,906

The Settlement Officer was instructed to aim at a fixed dry assessment of Rs. 58,000, which gave an increase of 19 per cent. on the present fixed demand, while the total fixed assessment *plus* the increase of Rs. 1,000 in the fluctuating canal charges amounted to 79 per cent. of the half-net asssts estimate of Rs. 75,000. As at last settlement, this circle has been assessed at considerably lower rates than the Panipat Khadar, but the rents here are considerably lower than they are in that circle.

No addition was made to the fixed assessment of canal land in this circle, as the amount involved was considered too small to be taken into account. The assessment actually announced was Rs. 59,005, or an increase of 21 per cent. on the old demand.

Karnal Nardak.

In Mr. Ibbetson's time the Karnal Nardak was a high arid tract, with water at great depths, having only 27 per cent. of its area cultivated and hardly any of it irrigated, and being chiefly occupied by cattle-grazing Rajputs. Since then its agricultural condition has been revolutionized by the realignment of the Western Jumna Canal and the extension of irrigation to this circle, though even now it is covered with dense *dhak* jungle, varied by stretches of cultivation. Forty-four per cent. of the total area is under cultivation, and 15 per cent. of the total area (34 per cent. of the cultivated area) irrigated by the canal. Population has increased by more than 30 per cent. since 1881, and signs of prosperity are everywhere apparent. Cultivation and irrigation are certain to extend still further during the next 30 years. The Financial Commissioner assumed that 22,000 acres were likely to be irrigated in future from the canal on an average of years. The area recorded as chahi was 2,542

CHAP. III. C.

Revenue Administration.

Karnal Nardak.

acres, but well irrigation has been decreasing, owing to the introduction of the canal, and the Financial Commissioner assumed only 2,000 acres as the assessable average of this class of soil. The remaining area was treated as barani. The rent rates vary greatly, being full rents near Karnal, and not yet full rents in the newly irrigated villages further west. The Financial Commissioner's estimate of the half-net-assets of the cultivated land, based on cash rents, was as follows :—

Soil.	Area in acres.	Half-net-assets rate.	Resulting estimate.
		Rs. A. P.	Rs.
Chahi (actually irrigated) ...	2,000	1 14 0	3,750
Nahri (ditto) ...	22,000	1 14 0	41,250
Barani	41,576	0 14 0	36,379
Total cultivation ...	65,576	...	81,379

It was considered that the produce estimate of Rs. 63,000 failed to take into account the spread of irrigation, and half the present renting value of the cultivated land was therefore estimated at Rs. 80,000. The Financial Commissioner thought that in assessing for 30 years this rapidly developing tract, the estimate of present half-net-assets might be safely approached. The fixed assessment sanctioned was as follows :—

Soil.	Area in acres.	Mr. Ibbetson's revenue rate.	Half-net-assets rate.	Revenue rates proposed by the Financial Commissioner.	Resulting assessment.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.
Chahi (actually irrigated).	2,000	1 14 0	1 14 0	1 8 0	3,000
Nahri (ditto)	22,000	0 9 0	1 14 0	0 14 0	19,250
Barani	41,576	0 9 0	0 14 0	0 10 0	25,985
Total cultivation ...	65,576	...	...	...	48,235
Grazing area ...	60,391	0 0 8	...	0 1 0	3,774
Total ...	...	...	...	...	52,009

The Settlement Officer was instructed to aim at a total fixed dry assessment of Rs. 52,000. The actual assessment

CHAP. III. C.

Revenue Administration.

Karnal Nardak.

imposed was Rs. 53,212,—an increase of 58 per cent. over the old fixed assessment of Rs. 33, 662. This assessment is light in present circumstances, and will probably become very light as cultivation and irrigation develop. No addition was made to the fixed assessment of canal land in this circle, as the amount involved was considered too small to be taken into account.

Indri Nardak.

The improvement since Mr. Douie's settlement 20 years ago has not been so great as in the Karnal Nardak. But the cultivated area has increased by 10 per cent., and the recorded chahi area by 10 per cent., though the number of wells in use has fallen off slightly. Canal irrigation has been introduced since last settlement, more than a fifth of the total cultivated area being now classed as canal irrigated. The area to be assessed as *chahi* was assumed to be 2,200 acres. The total recorded nahri area was 7,680 acres, and on the average of the three years 1905—1908, the average matured nahri area was 6,308 acres, with 12 per cent. allowance for kharaba. Seven thousand acres were therefore taken as the actual average irrigation at present. Rather more than half this area is dependent on the Chautang Canal, irrigation from which is charged only at occupier's rates, or only two-thirds of the usual total of fluctuating canal charges. The area on which cash rents are paid was very small, and the rents paid in the adjoining and similar Karnal Nardak were taken as a guide, the barani rent rate being reduced from Re. 1-12-0 to Re. 1-8-0, to allow for the inferior soil and the precarious cropping, especially on the *dahr* cultivation. The estimate of the half-net assets by cash rents was therefore as follows :—

Soil.	Area in acres.	Half-net-assets rate.	Resulting estimate.
		Rs. A. P.	Rs.
Chahi (actually irrigated) ...	2,200	1 14 0	4,125
Nahri (ditto) ...	7,000	1 14 0	13,125
Barani	23,535	0 12 0	17,652
Total ...	82,735	...	34,902

The kind rent estimate of Rs. 28,888 was rejected, being based on low prices and low assumed outturns, and on the areas of

CHAP. III. C.

Revenue Administration.

Indri Nardak.

1900-05, when only 3,488 acres of matured nahri crops were grown. A safe estimate of the half net renting value of the cultivated area of the circle under present circumstances was held to be Rs. 32,000. The rates sanctioned for a fixed dry assessment were as follows :—

Soil.	Area in acres.	Mr. Douie's revenue rate.	Half-net-assets rate.	Revenue rate proposed by Financial Commissioner.	Resulting assessment.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.
Chahi (actually irrigated).	2,200	2 0 0	1 14 0	1 12 0	3,850
Nahri (ditto)	7,000	...	1 14 0	0 12 0	5,250
Barani	23,535	0 10 0	0 12 0	0 10 0	14,709
Total cultivation ...	32,735	...	...	...	23,809
Grazing area ...	35,303	0 0 6	0 1 0	...	2,202
Total ...	...	...	...	...	26,015

The Settlement Officer was instructed to aim at a fixed assessment of Rs. 26,000 and was allowed to put a lower rate on *dahr*, as the barani rate could safely be raised to 12 annas or more on the best unirrigated land. The actual assessment as announced was Rs. 27,555,—an increase of 15 per cent. on the old demand. No addition was made to the fixed assessment of canal land in this circle, as the amount involved was considered too small to be taken into account.

Indri Bangar.

62. This circle is comparatively stagnant. Population and wells in use have fallen off, but there has been an increase in cultivation of 6 per cent., and a considerable extension of canal irrigation, and prices have risen by over 25 per cent. The recorded chahi area is 11,589 acres. The actual average area annually irrigated in the thirteen years 1895-08 was 7,108 acres and in the three years 1905-08, of which two were ver dry years, 7,827 acres. The Financial Commissioner took 7,200 acres as the assessable area. The recorded nahri area was 2,270 acres : the actual cropped nahri area of the three years, 1905-08, averaged 2,045 acres. Two thousand acres were assumed as the

CHAP. III. C.

Revenue Administration.

Indri Bangar.

assessable area. The following rates were taken for the half-net-assets based on cash rents :—

Soil.	Area in acres.	Half-net-assets rate.	Resulting estimate.
		Rs. A. P.	Rs.
Chahi	7,200	2 8 0	18,000
Nahri	2,000	2 0 0	4,000
Canal sailab	1,116	2 0 0	2,232
Barani	33,298	1 4 0	41,622
Total cultivation ...	43,614	...	65,854

The revised kind rent estimate was Rs. 55,405; but, as it was based on low outturns and prices, and on a low estimate of canal irrigation, the half-net-assets were placed at Rs. 62,000. The old assessment was Rs. 49,875. The following fixed dry assessment was sanctioned :—

Soil.	Area in acres.	Revenue rate.	Resulting assessment.
		Rs. A. P.	Rs.
Chahi (actually irrigated) ...	7,200	2 4 0	16,200
Nahri (ditto) ...	2,000	1 4 0	2,500
Canal sailab	1,116	1 12 0	1,953
Barani	33,298	1 0 0	33,298
Total cultivation ...	43,614	...	53,951

The Settlement Officer was instructed to aim at a fixed demand of Rs. 54,000, and the actual assessment imposed amounted to Rs. 55,315, an increase of 11 per cent. on the old demand. No addition was made to the fixed assessment of canal land in this circle, as the amount involved was considered too small to be taken into account.

CHAP. III. C. Revenue Administration. Indri Khadar.

The Khadar of the Indri pargana is the worst tract of the kind along this part of the Jumna, being inferior both to the Khadar of Pipli and Jagadhri to the north, and to that of Karnal and Panipat to the south. Its soil is throughout inferior, being either the lightest of sand or the stiffest of clay. The Jumna floods do a good deal of harm, and the lands they moisten are littie more productive than those dependent on rain. Percolation from the canal still swamps considerable areas, though it improves the productive power of others. The tract has long been in a stagnant condition, while its neighbours have been rapidly becoming more prosperous. Cultivation has increased by only one per cent. since Mr. Douie's settlement, the number of wells in use has slightly decreased, and population has fallen off considerably, owing partly to the unhealthy climate and partly to emigration to more favoured tracts. On the other hand, cattle have largely increased, and the realignment of the canal has restored some of the fertility of a considerable area in the south of the circle. On the whole the circumstances of the tract called for tender treatment. The recorded chahi area is 11,907 acres, but the average area actually irrigated in the 13 years, 1895-08, was only 8,127 acres, and the average matured area of the three years, 1905-08, (two of them very dry years), 8,589 acres. Only 8,000 acres actually irrigated on a long average of years were considered as assessable at the high chahi rent. The remaining area classed as chahi was treated as barani. A considerable area was available for a cash rent estimate. The half-net assets estimate based on cash rents was as follows :—

Soil	Area in acres.	Half-net-assets rate.	Resulting estimate.
		Rs. A. P.	Rs.
Chahi (actually irrigated) ...	8,000	2 8 0	20,000
Canal sailab	4,422	2 2 0	9,397
Jumna sailab	14,424	1 8 0	21,636
Barani	34,969	1 6 0	48,082
Total cultivation ...	61,815	...	99,115

CHAP. III. C.

Revenue Administration.

Indri Khadar.

The estimate by kind rents was Rs. 1,01,640, and half the present renting value of the circle was taken as one lakh. The following rates were sanctioned :—

Soil.	Area in acres.	Revenue rate.	Resulting assessment
		Rs. A. P.	Rs.
Chahi (actually irrigated) ...	8,000	2 4 0	18,000
Canal sailab	4,422	1 14 0	8,291
Barani and Jumna sailab ...	49,393	1 3 0	58,654
Total cultivation ...	61,815	...	84,945

The Settlement Officer was instructed to aim at an assessment of Rs. 85,000, an increase of 5 per cent. on the old assessment, Rs. 80,915, and equivalent to 85 per cent. of the estimated half-net-assets. The actual assessment announced was Rs. 88,046, an increase of 8 per cent. on the old demand.

(e)—*Thanesar*.

General conditions.

The demand of the year 1887-88 for the tahsil as now constituted was Rs. 2,28,763. This was raised by Mr. Douie's revision, which took effect from that year, to Rs. 2,43,966, a reduction being allowed in the Southern Chachra and the increase obtained from the other circles. The working of the assessment was proof both of its moderation and of the secure position of the tahsil, for during the currency of settlement it was only necessary to remit Rs. 11,094. The rainfall returns also testify to the security of the tract, the average rainfall for the last 20 years being 29 inches. The demand for the year 1906-07 was Rs. 2,40,364, the reduction since 1887-88 being due to diluvion. Thirty-one per cent. of the revenue is assigned.

Cultivated area.

The limit of increase in cultivation had been reached at Mr. Douie's settlement in the Bet Markanda and probably in the Bangar also. In the other three circles there was then, and still is, a considerable margin for increase ; but while the cultivated area has greatly increased in the two Chachra circles it has remained stationary in the Khadar. The largest increases in the number of cattle of all kinds have also occurred in the two Chachras, though the increase is general throughout the tahsil. There has been a considerable increase in the area

CHAP. III. C.

Revenue Administration.

Cultivated area.

irrigated from wells in the two Chachras, and a large number of old wells have been brought into use. The decrease in the number of wells and in the area irrigated from them in the Khadar and Bangar circles is no less indubitable and no less striking. The water-table in the two Chachras appears to have risen since last settlement.

Population.

The population of the two Chachra circles has increased since last settlement, but in the other circles there has been a decrease. Thanesar has been benefited by an immigration of Malis, but there appears to have been an emigration of menials, and there has been a large mortality among all classes from plague. Of agricultural tribes the Jats and Rajputs are the more important. Kambohs are numerous in the Bangar and Khadar. Bannias have taken strongest hold in the Bangar and Northern Chachra circles. Pressure on the land is not excessive.

Transfers.

The percentage of the cultivated area sold since settlement varies from 7 per cent. in the Bet Markanda and 11 per cent. in the Khadar, to 17 per cent. in the Bangar and 21 per cent. in the Southern Chachra. As much as 22 per cent. of the cultivation is now under mortgage in the Bet-Markanda, 15 in the Khadar and Bangar and 8 per cent. in the two Chachras. These proportions are comparatively high, but an examination of the prices paid for land in terms of the land revenue of the area sold suggests that the lightness of the demand has tempted capitalists to acquire the land of the more thriftless among the agriculturists. The value of land, however, has risen considerably and one pleasing feature of alienations in the past is the acquisition of land by Malis in the two Chachras.

Proportion of area cultivated by owners and by tenants respectively.

The decrease since last settlement in the proportion of the land cultivated by the owners themselves to that cultivated through tenants paying rent was very marked, being due partly to mortality from plague and partly to the acquisition of land by non-agriculturists. Proprietors now cultivate 60 per cent. of the cultivation in the Chachra and about half in the other three circles. Rent is paid in kind on one-third of the total cultivated area in all circles. Cash rents are of importance only in the Khadar and the Bangar, where they are paid on 8 and 11 per cent. of the cultivation only, though they have gained in popularity in all circles since last settlement.

Half-net-assets estimate.

In these circumstances the produce estimate was the principal foundation of the assessment proposals. The estimates based on cash rents were recognised as reliable guides to

CHAP. III. C.

Revenue Administration.

Half-net-assets estimate.

the assessment of the Khadar and Bangar circles, and afforded a useful check on the produce estimate in the other circles. The estimates are compared below :—

	Net Markanda.	Khadar.	Bangar.	Northern Chachra.	Southern Chachra.
	Rs.	Rs.	Rs.	Rs.	Rs.
Half assets by kind rents ...	1,39,082	36,502	38,260	63,207	25,666
Half assets by cash rents ...	2,35,921	45,625	48,474	88,060	45,092

The Settlement Commissioner increased the Assistant Settlement Officer's proposed assessment in all circles, and the Financial Commissioner after revising the half-net-assets estimate adopted the Settlement Commissioner's proposals, except in the Southern Chachra circle, where the demand was increased. The assessment of the Bet Markanda circle was still further enhanced under the orders of Government.

Assessment.

The new assessment is thus compared with the old demand and the revised estimates of half-net-assets :—

	Financial Commissioner's estimate of half-net-assets	Old demand.	Assessment as sanctioned.	Actually announced.	Increase per cent. on old demand.	Percentage of proposed assessment on half-net-assets.
	Rs.	Rs.	Rs.	Rs.		
Bet Markanda ...	1,60,000	94,464	1,26,000	1,19,960	27	78
Khadar ...	40,000	27,400	30,000	31,035	13	75
Bangar ...	45,000	41,068	41,000	42,674	4	91
Northern Chachra ...	70,000	51,070	63,000	64,994	27	90
Southern Chachra ...	35,000	26,492	32,000	35,145	33	91
Total tahsil ...	3,50,000	2,40,494	2,86,000	...	19	82

(d)—Kaithal.

CHAP. III C. — Revenue Administration. — Cultivated area.

Cultivation increased enormously in the two canal-irrigated circles and advanced in all the others also except the Naili :—

Circle.		Nardak.	Bangar.	Naili.	Bangar Pehowa.	Andar-war.	Powadh.
Cultivated area in acres	Last settlement	91,000	148,000	75,000	17,000	12,000	22,000
	Now ...	146,000	174,000	68,000	22,000	14,000	23,000

In the Nardak the area of barani cultivation remains the same as at last settlement, and the area now irrigated by the Western Jumna Canal is almost identical with the increase in the total cultivated area. In the Bangar, on the other hand, which was much more fully developed before the advent of Sirsa Branch, the area of barani cultivation has diminished by 34,000 acres, while that recorded as nahri has increased by 50,000 acres. The reduction of 7,000 acres in the Naili is the net result of decreases of 1,000, 11,000 and 5,000 acres, respectively, in chahi, sailab and barani land. and increases of 8,000 acres in land irrigated from the Sarusti Canal (non-existent before) and 2,000 acres in *dahr* land. The term *dahr* was limited to a hard soil capable of yielding the coarser varieties of rice, and nothing else. Seven thousand acres, therefore, have gone out of cultivation, though 8,000 have been made more secure by the grant of irrigation. The increase in the Bangar Pehowa is nearly 33 per cent. on the former cultivated area, and 3,700 acres have been made more secure by the new Sarusti Canal. In the Andarwar the increase amounts to 13 per cent., partly in chahi, but chiefly in barani land. In the Powadh there have been increases of 500 acres in chahi and 2,400 acres in the nahri land (Sirhind Canal irrigation), counterbalanced by a decrease of 2,000 acres in the area recorded as "*tibbi.*"

Well irrigation.

There are more wells in the Naili circle than in any other, but they are there worked only if the floods are short. The depth to water averages 25 feet. The only circles in which well-irrigation is of importance are the Andarwar and the Powadh. The proportion of chahi cultivation to the total is greater in the former than in the latter, although the depth to water is 33 as compared with 22 feet. In the Nardak, Bangar and Bangar Pehowa the depth to water is 66, 63 and 41 feet,

CHAP. III. C.

Revenue Adminstration.

respectively, and there is little cultivation from wells. In the Naili the crops grown are not of the less valuable varieties, but the crop returns show the area of crop failure to be enormous.

Population.

The increase in population during the last 20 years was 46 per cent. in the Nardak and 22 per cent. in the Bangar, due largely to immigration of cultivators on the spread of canal irrigation. The Bangar Pehowa is a tract more similar to those two circles than to the other three, and there also population has increased with cultivation. In the Andarwar and Powadh the figures of 20 years ago have barely been maintained: this is due to the general unhealthiness of the former circle and to plague in the latter. In the Naili circle there has been a considerable drop, for which the malarious and unhealthy climate is partly responsible, but which is also partly due to the emigration of menials and cultivators consequent on the droughts of the last 14 years. In all circles the density on cultivation is light, and the average area of the proprietary holding is large, being lowest in the Andarwar, where it is 6 acres, and rising as high as 21 acres in the Nardak. Jats hold the bulk of the cultivated land of the tahsil, and predominate in most of the circles, but the so-called Jats of the Andarwar and Powadh circles include Jat Sikhs. The Jats of the Naili are of poor physique, but those of the southern part of the tahsil are among the best of their tribe. Rajputs are numerous in the Nardak and Naili circles, holding half the cultivation in the former and nearly as much as the Jats in the latter, and are industrious and of good physique. Rors are a strong element in the Nardak and Bangar Pehowa circles, in each of which their holding exceeds that of the Jats. Gujars own a considerable proportion of the Naili and Bangar Pehowa circles, and have also substantial holdings in the Nardak and Bangar.

Transfers.

The percentages of the total cultivation (*a*) sold since last settlement and (*b*) now under mortgage are as follows for various circles :—

	Nardak.	Bangar.	Naili.	Bangar Pehowa.	Andarwar.	Powadh.
Percentage sold ...	5	3	6	5	2	5
Percentage under mortgage.	3	6	11	4	12	11

Value of land.

Good prices are obtained, varying from Rs. 40 to Rs. 70 per acre of cultivation, but for assessment purposes the most useful examination of prices is obtained by stating them in terms of the land revenue of the land sold:—

	Nardak.	Bangar.	Naili.	Bangar Pehowa.	Andarwar.	Powadh.
Average 1887—1890 ...	39	55	44	37	24	25
Average 1900—1905 ...	94	107	54	94	43	36

The rise in price is noteworthy; even the Naili has partaken in it though to a less extent than the other circles. The Punjabi purchaser generally looks to get 6 per cent. or more, but if we take 5 per cent. as the rate and take the prices of the quinquennium ending with 1905, we find by Sir James Wilson's formula that the investor must estimate the profit from land to be, from 5 to 6 times its assessment in the Nardak, Bangar and Bangar Pehowa circles, and from 3 to 4 times its assessment in the Powadh, Andarwar and Naili circles.

Cattle and grazing land.

The small Andarwar and Powadh circles have always been agricultural rather than pastoral circles, and in these the numbers of live-stock have fallen off somewhat since settlement. In the Bangar Pehowa circles, too, the income from live-stock is of secondary importance, but the numbers have increased, and the annual income is estimated at Rs. 11,000. The remaining three circles formed originally a great grazing ground, and the Naili still remains so, with cultivation a secondary consideration. In that circle the number of horned cattle has increased, and is equal to the number of population. The annual profit is estimated at Rs. 31,000. In the Nardak and Bangar, where much grazing land has been brought under the plough since settlement, the number of cows has diminished while the number of stall-fed buffaloes and of plough bullocks has increased; the profits from stock in these circles, however, are still considerable, and are estimated at Rs. 53,000 per annum in each circle. In the Nardak the culturable waste still remaining is more than double the area remaining in the Bangar, and it was therefore proposed to put an assessment on the waste in the former, but not in the latter circle.

CHAP. III. C.

Revenue Administration.

Miscellaneous ncome.

Of miscellaneous income there is little or none except in the Powadh circle where military service is readily taken by the Jat Sikh population. The southern portion of the tahsil has benefited considerably by the construction during the term of settlement of the Southern Punjab Railway which runs along its south-west corner, besides being connected with Kaithal town by a branch line. In the remainder of the tahsil there has been no improvement in communications since last settlement, and the Naili circle, in particular, is very badly off for roads.

Communications.

The work of framing an estimate of the income to the owners from their cultivated land was attended with special difficulty because so much of the land is cultivated by the owners themselves. Taking the Nardak and Bangar circles together, $\frac{1}{12}$th of the cultivation is in the hands of tenants-at-will paying rents in kind, and only $\frac{1}{29}$th is held by tenants paying cash rents. In the remainder of the tahsil $\frac{1}{5}$th is in the hands of tenants of the former class, but only $\frac{1}{60}$th is held on cash rents.

Half-net-assets estimate.

To take the half-net-assets estimate by kind rents first. The rates of yield applied to the cycle areas were for canal-irrigated cane, cotton and wheat, moderate, being 24, 7 and 12 maunds, respectively. These were the governing crops on canal-irrigated land. The rates of 4 maunds an acre for jowar and from 5 to 8 maunds per acre of unirrigated rice were low. Fodder and straw were neglected in calculating the owner's share of the produce—liberal treatment in a tract where cattle are a valuable asset. An allowance of 10 per cent. was made for payments to menials from the common heap, and the landlords' share of the produce remaining was $\frac{1}{4}$th everywhere except in the Powadh, where it was $\frac{1}{3}$rd. All canal charges are paid by the tenant except in the Powadh where the owner pays $\frac{1}{3}$rd, and so it is only there that they come into the calculation. The scale of commutation prices was framed three years ago on a consideration of the prices recorded up to 1903-04, and was low, judged by the rates that had ruled since that year; it was the same, however, as had been used in the assessment of the Karnal and Panipat tahsils, except that outside the Nardak and the Bangar wheat was valued at 29 annas a maund (as in Thanesar), instead of 31 annas.

The areas on which true cash rents are paid are very small in all circles, the largest being 700 acres in the Nardak and 400 in the Bangar. A half asset estimate was worked out for each circle from the rents which were considered representative. A deduction of from 10 to 12 per cent. was allowed for short collections, even on irrigated land, and of 15 per cent. on barani.

CHAP. III. C.

Revenue Administration.

Assessment.

The new assessment is compared below with the old demand and the estimate of half-net assets :—

	Estimate of half-net-assets.		Old demand.	Assessment as sanctioned.	Assessment imposed.	Increase per cent. on old assessment.
	Cash.	Produce.				
	Rs.		Rs.	Rs.	Rs.	
Nardak	1,41,631	156,551	53,756	1,14,400	1,14,225	112
Bangar	1,56,406	163,024	69,075	1,16,220	1,16,735	69
Bangar Pehowa ...	16,528	15,592	12,067	15,000	15,480	28
Naili	49,415	67,805	70,730	61,500	62,675	−11
Andarwar	12,160	12,370	16,234	16,000	16,630	2
Powadh	30,546	31,335	28,368	31,000	32,070	13

The above figures omit the assessment which was considered available for enhancement of rates on the Western Jumna Canal and for the Sarusti Canal, a small irrigation system taking out of the Sanisa jhil and managed by the District Board. But the assessment shown in the statement includes an additional fixed assessment on canal land of Rs. 5,400 in the Nardak and of Rs. 4,220 in the Bangar-Kaithal circle imposed in consequence of the orders conveyed in Punjab Government letter No. 251, dated 19th November 1909.

The assessment takes into account the immense improvement in the Nardak and Bangar circles brought about by the extension of irrigation from the Sirsa Branch of the Western Jumna Canal. Much of the enhancement taken in these circles is to be realized by progressive assessment. On the other hand in the rest of the tahsil the increase taken is small, and a considerable reduction has been given on Mr. Douie's assessment of the Naili circle which has suffered from a cycle of bad seasons.

Fluctuating assessment.

Under the provisions of last settlement a few estates in the Indri Nardak circle of the Karnal tahsil and in the Naili circles of the Kaithal tahsil were under fluctuating assessment in 1904. Under present orders no system of fluctuating assessment will be introduced except in estates whose proprietors apply for it. Hitherto no such application has been received and the District administration has been relieved from a considerable strain during the six monthly crop inspections.

CHAP. III. C.

Revenue Administration.

The subordinate Revenue Staff.

The sanctioned scale of the Kanungo Establishment is as follows :—

				Pay Rs.
1	Sadr Kanungo	...	...	60—80
1	Assistant to Sadr Kanungo	...	...	30
4	Tahsil Office Kanungos		...	40
1	Tahsil Office Kanungo (Guhla)		...	30
4	Field Kanungos	...	...	30
13	Field Kanungos	...	...	25

The number of patwaris supervised by the above staff is 359, distributed as follows :—

				Pay Rs.
134	1st grade patwaris	...	...	14
133	2nd grade patwaris	...	...	12
77	3rd grade patwaris	...	...	10
15	Assistant patwaris	...	...	8

Village headmen.

The history of the village headmen who are responsible for the collection of the land revenue possesses peculiar interest in the Karnal District.

It appears from the old records of Panipat and pargana Karnal that in former days there was one headman for each pana. They had great authority, the distribution of the revenue being wholly in the hands of the thapa and village councils, of which they formed the heads. Their office was hereditary, though fitness was an essential, and the next heir would be passed over, if incapable, in favour of another member of the same family. When we acquired the tract the same arrangement was perforce continued for many years, as no record of individual rights or liabilities existed. But unfortunately the hereditary nature of the office, and the authority which should attach to it, were lost sight of. All the leading men of the village were admitted to sign the engagement for the revenue, and all that signed it were called headmen. The allowance (pachotra), which is given to these men, took the form of a deduction from the last instalment of revenue if paid punctually, and was divided by all the engagers; in fact, it is even said that "all the owners shared it proportionally, and that it practically took the form of a mere abatement of revenue in which the whole community had a common interest."

CHAP. III. C.

Revenue Administration.

Village headmen.

In 1830 a field-to-field record had been introduced, and an attempt was made to limit the number of headmen, it being ruled that the people were to elect fresh headmen every year, who alone were to enjoy the allowance. The Collector of the time regretted the change. He wrote in 1831 :—

"The great objection to the new arrangement is that it is calculated to destroy the strong and honourable feeling of mutual good-will and attachment which formerly characterized the intercourse of the headmen or sharers with the other classes of the community. The support and assistance which the elders had it in their power to afford to the lesser cultivators ensured their respect and obedience, and consequently the peace and good order of the society. The power they possessed was considerable ; and, so far as the interests of their own village were concerned, was scarcely ever abused."

These words show the light in which these innumerable headmen were then looked upon. The other members of the proprietary body were called rayats or cultivators; and we find the Supreme Government asking for an explanation of the fact that some of the reports submitted seemed to imply that they too possessed a proprietary interest in the land.

The plan of having a new election of headmen does not seem to have been, in its integrity, carried into effect ; but up to the settlement of 1842 the number of headmen was still inordinately excessive. We find a village paying Rs. 14,000 with 76 headmen, another paying Rs. 3,500 with 21, a third paying Rs. 5,500 with 23, and so on. In 1839 the Collector wrote that the matter had been "a continual fester for years." At the settlement of 1842 the Settlement Officer was directed to reduce the numbers largely, taking as a general standard one headman for every Rs. 1,000 of revenue. He found that among the crowd of so-called headmen there were generally some who had enjoyed the office, either personally or through their ancestors, for a considerable period. These he selected, and, as far as possible, gave one headman at least to each sub-division of a village.

In Kaithal the number of headmen recognized in the first settlements was excessive. In the settlement of 1856 the evil was met in many villages by the somewhat clumsy device of confirming existing holders in their appointments for life, and

CHAP. III. C.

Revenue Administration.

Village headmen.

providing that the first one or two vacancies should not be filled up. Thus, if the most influential headman in an estate died first, his heir had no claim. The rule was carried out, but the other headmen often continued to pay a share of the pachotra to the heir, who in ordinary course would have succeeded, for long after his position had ceased to be officially recognised. Many claims for the revival of appointments which had lapsed were presented during the recent settlement, but they were rejected.

The Gazetteer of 1892 states :—

> At present the distribution is very unequal; villages with eight or ten headmen are not uncommon; and as each man often pays in only two to three hundred rupees of revenue, the allowance of 5 per cent. is, in such cases, quite insufficient to give any standing to the office. As a rule either the headmen or the patwari, or both together, have the accounts of the community very much in their own hands. The headmen have, therefore, great power in many matters, but our system has to a large extent deprived them of that authority and responsibility which is the best security for a proper exercise of such power. That serious cases of embezzlement are so rare is a proof of the good faith which governs the mass of the people in their dealings with one another. The village headmen enjoy certain privileges by virtue of their office. Thus they and their heirs-apparent are exempt from the duties of village watch and ward (see paragraph 191). A Chamar is often attached to each headman as a personal attendant without payment further than his mid-day meal; and the body of Chamars generally have to give a day's work in the fields of each, though, as they expect to be feasted on the occasion, the service is more of an honour than a profit to the recipient. The right of succession runs in the eldest male line; and the right of representation is universally recognized, the deceased elder son's son taking precedence of the living younger son, though the former may be a minor, and a substitute may have to be appointed to do his work.

The present arrangements are still far from satisfactory, especially in the north of Kaithal and in the Thanesar tahsil, where it is not uncommon to find 3 or 4 headmen in a village, the total revenue of which is less than Rs. 300. Efforts were made throughout the recent settlement to reduce the number of those appointments where the amount of pachotra was not sufficient to induce the lambardars to carry out the duties assigned to them under the land revenue rules. A scheme for the reduction of village headmen in suitable cases was prepared and made over to the Deputy Commissioner. Owing to the extension of canal irrigation the pachotra of lambardars in Karnal, Panipat and south of Kaithal is generally sufficient, and there need be no hesitation in demanding from the headmen in those tahsils the full exercise of their legal duties. In Thanesar and the Guhla

CHAP. III. C.

Revenue Administration.

tahsils the improvement in the status of the lambardar will no doubt be effected in time; but the process must be gradual. The inferior status of the lambardars in those parts of the district is one of the least satisfactory features of the general administration.

Village headmen. Zaildars.

The zaildari system was introduced at the settlement of the Panipat tahsil and the Karnal pargana by Mr. Ibbetson. Shortly afterwards the system was extended to the rest of the district as it then existed, *i.e.*, excluding the present Thanesar tahsil. No zaildar was appointed in Thanesar though the inamdars who took their place practically corresponded to zaildars in everything but their remuneration. In 1904 there were 16 zaildars in Karnal, 7 in Panipat and 15 in Kaithal, and 14 inamdars in Thanesar. Their remuneration was very uneven. The Panipat zaildars in some cases received as much as Rs. 700 per annum, while the Thanesar inamdars had to be content with only Rs. 60. Under the proposals sent up during settlement and sanctioned by Government, zaildars were appointed throughout the district and divided into three grades of Rs. 300, Rs. 250 and Rs. 200. The boundaries of zails, though primarily based on tribal distinctions, were slightly altered in order to make them correspond as far as possible with the boundaries of thanas.

The total remuneration of zaildars, which roughly amounts to Re. 1 per cent. of the land revenue, is Rs. 11,750.

Sufaidposhi inams and abolition of the ala-lambardari system.

Mr. Ibbetson appointed ala-lambardars in the Panipat tahsil and the Karnal pargana, but, with a few exceptions, ala-lambardars had not shown themselves deserving of the remuneration of 1 per cent. of the land revenue, which they deducted from the revenue of their village. The system was therefore abolished in 1909. No new appointments had been made since 1904 and none will be made in future; existing incumbents will, so far possible, be absorbed in the arrangements for sufaidposh inamadars. Sufaidposh inams were created along with the zaildari system in the tract settled by Mr. Douie.

A sum of Rs. 3,000, amounting roughly to $\frac{1}{4}$ per cent. of the land revenue of the district, has been set apart for the remuneration of sufaidposhi inams in all tahsils.

Jagirdars are now not exempted from the zaildari and sufaidposhi contribution, but in the case of muafis of less value than Rs. 50 per annum, when the muafi does not comprise the whole village, the contribution is not levied.

CHAP. III. D.

Miscellaneuos Revenue.

Excise.

Section D.—Miscellaneous Revenue.

Table 41 gives details of excise revenue and consumption. This is not a Jat or Sikh District.

Muhammadans and Hindu Mahajans observe religious restrictions, and hence the amount of liquor, drugs, and opium consumed is not large. The annual consumption per head of population includes the quantity consumed by pilgrims who attended the Sun Eclipse Fair at Thanesar. The number of pilgrims was about Rs. 1,30,000 in 1914.

The incidences of consumption of the various excisable articles in the year 1914-15 are given in the following table :—

1	2	3	4
Name of article.	Annual consumption per head of population.	Cost price including tax.	Incidence of taxation per head.
		Rs. A. P.	Rs. A. P.
Imported spirit	·0018 bottle	0 0 1·03	0 0 ·15
Country spirit	·03 bottle	0 1 0	0 3 3·63
Opium	1·3 mashas	0 0 9·6	0 0 7·18
Charas	1·7 mashas	0 0 8·37 (Charas and Bhang)	0 0 3·17 (Charas and Bhang)
Bhang	4·9 rattis		

The incidence of country spirit taxation per head however conveys a wrong impression, as the calculation includes the still head duty on spirit exported to other districts, which is paid into the local treasury.

There is a distillery at Karnal, which is owned by Lala Kishori Lal. It is equipped with up-to-date plant and is capable of a large output.

There is no poppy cultivation. Opium comes from Ghazipur and poppy heads are obtained from Hoshiarpur. Bhang and charas come from Delhi and Hoshiarpur.

The popular taste of the present day favours flavoured products. Spirit is flavoured with essences like cardamom, saffron, musk, orange or apple. Bottled spirit is preferred by the consumers, as it is thought to be free from adulteration. It is also liked on account of its colour and tempting lables.

Excise.

Sikh Sardars of the district are allowed to obtain spirit of special quality from the local distillery, which is prepared by addition of various spices, such as trifla, anise, ajwain, saffron cardamom, harir, bhera, mundi booti, &c. It is their idea that the use of this is not injurious to health. "Chandu" is prepared from opium, and "Charas" is smoked with tobacco. "Bhang" is flavoured with pepper, anise, poppy and other seeds. It is also partaken of in the form of a sweetmeat called "Barafi" or "Majun."

Illicit distillation is unknown, except in a few Jat villages of the Thanesar and Kaithal tahsils.

There is a small illicit traffic in cocaine. It exists in Karnal, Panipat and Shahabad, where it is brought from Delhi, Ambala and Saharanpur.

Stamps.

The following statement shows the actual receipts under the Stamp and Court Fees Acts during the five years ending 1914-15.

During 1912-13 there was a marked rise of receipts from judicial and non-judicial stamps. The increase in the income from judicial stamps was due to the amendment of the Court Fees Act in 1912, which raised the valuation of land suits for court fee purposes from 5 to 10 times the land revenue. It was also due to the realisation of inspection fees in stamps instead of cash.

The increase in the receipts from non-judicial stamps shows that the village money-lender is relying more and more on formal documents in transactions which he has hitherto been accustomed to record in his account-book. The number of vendors was 37 in 1914-15 compared with 42 in 1910-11 :—

Year.	Receipts.			Number of licensed stamp-vendors.
	Stamp Act.	Court Fees Act.	Total.	
	Rs.	Rs.	Rs.	
1910-11	23,556	82,958	1,06,514	42
1911-12	23,837	85,019	1,08,856	39
1912-13	27,608	93,676	1,21,284	40
1913-14	30,392	93,509	1,23,901	40
1914-15	29,654	93,745	1,23,399	37

CHAP. III, E.

Local and Municipal Government.

Income-tax.

Tables 42, 43 and 44 give details of income tax collections. The demand of income-tax has been increasing from year to year, and in 1914-15 collections amounted to over Rs. 67,000. Most of the assessees are grain-dealers or money-lenders. The rise in the demand is due to the rise of prices and consequent increase of profits made by the commercial community.

Section E.—Local and Municipal Government.

District Board.

The district is locally governed by a District Board which administers the income derived from local rate levied at Rs. 8-5-4 per cent. on the land revenue and some other sources.

The District Board consists of 32 elected, 6 appointed and 10 *ex-officio* members. The Deputy Commissioner is the *ex-officio* Chairman and the Civil Surgeon is usually elected Vice-Chairman: the other official members are the Superintendent of Police, the Sub-Divisional Officer, Kaithal, the Treasury Officer, all the Tahsildars and the District Inspector of Schools. There is a local Sub-Divisional Committee for Kaithal tahsil which is presided over by the Sub-Divisional Officer, Kaithal.

Non-official members, who live more than 10 miles from Sadar, are paid travelling allowance at certain rates for attending meetings and since this system was introduced the attendance at meetings has considerably increased. The district is divided into 32 electoral circles usually composed of one or two zails and the qualifications of electors are:—

"Every male person of not less than 21 years of age who pays per annum Rs. 2-1-4 or upwards as local rate, or is a lambardar, is qualified to vote for the election in his zail or circle."

At last election several of the vacancies were keenly contested and membership of the Board is considered a post of honour. The executive work of the Board is done by the Deputy Commissioner. The most important function of the Board is the maintenance of public works which are considerable. There is a District Engineer on Rs. 500 to Rs. 700 per mensem who has a staff of Sub-Overseers under him; he works under the supervision of the Deputy Commissioner. Education is dealt with by the District Inspector of Schools working under the Deputy Commissioner and medical

relief by the Civil Surgeon. The properties under the Board are as follows :—

CHAP. III. E.

Local and Municipal Government.

District Board.

4 vernacular middle Schools.

99 primary schools for boys.

11 primary schools for girls.

1 industrial school.

10 aided private primary schools.

12 hospitals and dispensaries (including 1 travelling and 1 canal aided dispensary .

47 cattle-pounds.

96½ miles of metalled roads.

780½ miles of unmetalled roads.

11 Provincial buildings (4 tahsils and 7 Civil rest-houses), and dâk bungalow.

4 Veterinary Dispensaries and 6 District Board rest-houses and buildings.

6 Sarais.

13 ferries (9 on Jumna and 4 on Ghaggar and Sarusti Nadi).

1 station garden at Karnal.

Of these, the King Edward Memorial Hospital at Karnal, opened by Sir Louis Dane, Lieutenant-Governor of the Punjab, on the 31st March 1913, deserves special mention. It is a very fine well-equipped hospital and cost Rs. 2,50,000 to construct, of which Rs. 64,828 were raised by subscriptions collected from Municipalities, Raises and other public-spirited residents of the district; Rs. 10,000 were granted by Government and the balance was met from District Board funds.

In addition, there is the Sarsuti Canal which was constructed by the Board in 1896 and is a scheduled minor canal belonging to the Board. It takes out from the Sansa Jheel near Murtzapur in Kaithal tahsil and receives the flood water of the hill streams known as Markanda and Sarusti Naddis, chiefly of the former. The total length of the canal, with its branches and rajbahas, is 78·77 miles and the total expenditure incurred from District Funds on original works and improvements in connection with the canal up to the end of 1914-15 amounted to Rs. 2,43,880 and on main-

CHAP. III. E.

Local and Municipal Government.

District Board.

tenance to Rs. 77,520 excluding cost of staff. Fifty-eight villages situated in the Kaithal tahsil receive irrigation: but the Jheel usually gets dry 19 or 20 days after the floods have ceased to run.

The average annual income of the canal derived from water rate amounts to Rs. 27,895 and the average expenditure incurred on maintenance and staff is Rs. 18,182; in addition Rs. 6,416 is paid yearly in repayment of the Government loan with the aid of which the canal was originally constructed; this loan will be completely redeemed by 1917-18.

The following important fairs which take place in this district are in charge of the District Board:—

(1) Kurukshetra Sun Eclipse fair at Thanesar.

(2) Phalgu fair.

(3) Pehowa fair.

Nos. 1 and 2 are held occasionally and No. 3 twice a year, in October and March.

The next Sun Eclipse fair will not take place until 1922.

The statement given below shows the income and expenditure of the Board received and incurred under different major heads during the year 1914-15:—

Income.

	Rs.
Local rate	1,29,181
Cattle-pounds	12,358
Education	25,694
Medical	18,193
Scientific and other minor departments ...	27,978
Miscellaneous	2,568
Sarusti Canal	17,480
Ferries	9,338
Government contributions for roads, buildings and Engineering Establishment (including special grant of Rs. 51,000 for roads)	94,555
Sale of trees, grass, rent, etc.	6,707
Total ...	3,44,052

CHAP. III. E.

Local and Municipal Government.

District Board.

Expenditure.	Rs.
General administration	7,888
Cattle-pounds	2,977
Education	48,415
Medical	51,607
Scientific and other minor departments ...	32,352
Gratuity and provident fund	2,913
Stationery	297
Miscellaneous	1,622
Minor works (Sarusti Canal)	19,462
Civil Works.	
Public works	1,31,116
Arboriculture, dâk bungalows, ferries, etc. ...	5,062
Repayment of loan	6,416
Total ...	3,10,127

Municipalities.

Table 46 shows six municipalities, but by Punjab Government notification No. 522, dated 16th September 1908, the Ladwa municipality was abolished and reduced to the status of a notified area.

Karnal Municipality.

The Committee is composed of 12 members, four of whom,—the Deputy Commissioner, the Civil Surgeon, the Sub-Divisional Officer, Public Works Department, and the Tahsildar—are *ex-officio*, and the remaining 8 are elected. The election rules do not provide for any separate representation of Hindus and Muhammadans. There is a plural system of voting. The Deputy Commissioner is President of the Committee.

Income.

The only taxes are octroi and a fee, as per detail below, levied on vehicles plying for hire within municipal limits :—

		Rs.	
1.	Open carriage, brougham and palki gari	4	per annum each.
2.	Ekka, tumtum or dog cart ...	2	" " "
3.	Thela for carriage of goods ...	6	" " "
4.	Bullock cart	3	" " "

The income from each source averaged during the three years ending 1914-15, Rs. 41,494 and Rs. 470, respectively, and the incidence of taxation per head of population was Rs. 1-15-1. Octroi furnishes nearly the whole income. The chief articles on which it is paid are grain, sugar, cloth and piece-goods and articles of clothing. Other sources of income averaged during the year

CHAP. III. E.

Local and Municipal Government.

Income.

above-mentioned Rs. 3,848. The chief items were:—rents of lands and houses, sale of manure, school fees, slaughter-house fees, fines under the municipal and other Acts, interest on investment and grants-in-aid.

As the octroi duty is chiefly levied on agricultural produce, the income of the municipality is therefore always fluctuating according to the good or bad outturns of crops. The total income, however, has increased considerably since the revision of octroi schedule in 1907.

Expenditure.

The chief items of expenditure were:—

	Rs.
General Administration	1,941
Collections	5,027
Public Safety	7,200
Public Health and Convenience	24,945
Public Instruction	4,790

Karnal is entirely dependent for its water-supply on wells, which are generally sweet: but the present arrangements are not satisfactory and a properly regulated water-supply would be a boon to the town.

A drainage scheme for Karnal city has been made out and approved by the Sanitary Engineer to Government, Punjab, and will be carried out as soon as funds permit: the existing drains are inadequate and badly laid, and there is no proper extramural drainage nor any arrangements for disposing of sullage water. The internal sanitary arrangements have considerably improved since the appointment of a properly qualified Sanitary Inspector.

Panipat Municipality.

The municipality of Panipat is of the second class and was constituted by Punjab Government notification No. 831, dated 4th December 1886.

The committee is composed of 12 members, one of whom, the Tahsildar, is *ex-officio*, 3 are appointed and 8 elected. The Tahsildar is President.

Income.

The only taxes are octroi and a fee, as detailed below, levied on all kinds of vehicles plying for hire within municipal limits:—

	Rs.	
1. Open carriage and palki gari ...	4	per annum each.
2. Ekkas, tumtums or buggies ...	2	„ „ „
3. Thelas and bullock carts for carriage of goods	4	„ „ „
4. Baili	2	„ „ „

The income from each source averaged Rs. 36,754 and Rs. 260, respectively, during the 3 years ending 1914-15, and the incidence of taxation per head of population was Re. 1-6-4. Octroi furnishes nearly the whole income. The chief articles on which it is levied are the same as in Karnal. No articles are at present exempt except vessels of brass which constitute a local industry.

CHAP III. E.

Local and Municipal Government.

Income.

The total income from sources other than octroi is Rs. 7,258, the chief items being cattle-pound fees, rents of lands and houses, sale of manure, school fees, fines under the Municipal and other Act and grants-in-aid.

The income of this municipality is fluctuating, depending as it does on the state of the crops.

Expenditure.

The chief items of expenditure were :—

	Rs.
General Administration	2,246
Collections	4,458
Public Safety	1,453
Public Health and Convenience	17,612
Public Instruction	12,015

The water-supply depends on wells which, with only a few exceptions, are brackish. Lately proposals were made to construct water-works for the Panipat town, but as the project was estimated to involve an expenditure which was beyond the resources of the municipal committee to incur, it was abandoned. The committee, however, is experimenting with tube wells, and if they are a success, intends to construct several to improve the water-supply.

A drainage scheme for Panipat has recently been prepared and sent to Sanitary Engineer to Government, Punjab, for approval.

Kaithal Municipality.

The municipality of Kaithal is a municipality of the second class and was constituted in 1886 by Punjab Government notification No. 831, dated 4th December 1886.

The committee is composed of 12 members, 2 of whom, the Sub-Divisional Officer and Sub-Assistant Surgeon, are *ex-officio*, 2 are appointed and 8 elected. There is no separate representation of Hindus and Muhammadans. The system of plural voting at present obtaining is being abolished, and the number of elected members reduced to 7. The Sub-Divisional Officer, Kaithal, is President.

CHAP. III. E.

Local and Municipal Government.

Income.

The only tax is octroi. The average income during the three years ending 1914-15 was octroi Rs. 18,729, other sources Rs. 6,488, and the total incidence of octroi per head of population Rs. 1-7-2. Octroi furnishes nearly the whole income and the chief articles on which it is levied and the chief sources of other income are the same as in the case of Panipat. The only article which is exempt from payment of octroi is oil which is an article of through trade.

Expenditure.

The chief items of expenditure were :—

	Rs.
General Administration	1,264
Collections	2,057
Public Safety	899
Public Health and Convenience	13,172
Public Instruction	7,669

The water-supply of Kaithal depends only on wells, most of which are sweet ; but they are from 60 to 90 feet deep. The present resources of the town do not allow of a water-works scheme being undertaken.

Arrangements are being made to draw out a drainage scheme for the Kaithal town which is badly needed. The town is surrounded by some large tanks and is very malarious. A Sanitary Inspector has been recently appointed.

Shahabad Municipality.

The municipality of Shahabad is a municipality of the second class and was constituted by Punjab Government notification No. 1044 S., dated 19th August 1885.

The committee is composed of 7 members, of whom one, the Tahsildar of Thanesar, is *ex-officio*, and the remaining 6 are appointed. The election system was abolished in 1894 under Punjab Government notification No. 635, dated 27th November 1894, for reasons which the Local Government deemed to affect the public interests. The Tahsildar is President.

Income.

The only tax is octroi. The average income from this source during the 3 years ending 1914-15 was Rs. 15,822, and the incidence of octroi per head of population was Re. 1-6-11, and the other income, which was derived chiefly from sale of manure, school fees, slaughter-house fees and grants-in-aid, was Rs. 2,532. Octroi is levied on all articles except oil which, being an article of through trade, is exempt from payment of octroi.

CHAP. III. E.

Local and Municipal Government.

Expenditure.

The chief items of expenditure were:—

	Rs.
General Administration	925
Collections	3,165
Public Safety	2,706
Public Health and Convenience	10,198
Public Instruction	3,920

A drainage scheme for the Shahabad town is under consideration. The town has considerable trade with Ambala and other places and is fairly prosperous.

Thanesar Municipality.

Thanesar municipality is of the second class and was constituted by Punjab Government notification No. 1044 S., dated 19th August 1885.

The committee is composed of 9 members, of whom 2, the Tahsildar and Sub-Assistant Surgeon, are *ex-officio*, and the remaining 7 are nominated. The Tahsildar is President.

The only taxes are octroi and a fee levied on all descriptions of vehicles as described in the case of the Karnal municipality. The income from each source averaged during the years ending 1914-15 Rs. 7,035 and Rs. 185, respectively, and the incidence of octroi per head of population was Re. 1-7-10. Octroi furnishes nearly the whole income. The chief articles on which it is paid are the same as in the case of Karnal. The average income from other sources, which consist of rents of lands and houses, school fees, fines under the Municipal and other Acts and grants-in-aid, was Rs. 1,612.

The financial condition of the municipality is very poor, but increases considerably in years in which the Sun Eclipse Fair takes place.

Expenditure.

The chief items of expenditure were :—

	Rs.
General Administration	426
Collections	1,304
Public Safety	1,885
Public Health and Convenience	3,190
Public Instruction	2,241

No scheme of drainage or water-works is being undertaken.

The town is unhealthy and decaying and many of the inhabitants would like to remove to another site near the Railway Station. The population and circumstances of Thanesar hardly justify its being continued as a municipality, but the Sun Eclipse Fair renders it of some importance.

CHAP. III F.

Public Works

General information about municipalities.

All members hold office for three years.

All schools, cattle-pounds, slaughter-houses, situated within municipal limits, are under the management of the municipal committees, and the registration of births and deaths is also done in the municipal offices. Building operations and other matters connected with sanitation and public health are supervised by the municipal committees.

The general conduct of business of the municipalities of Karnal, Panipat, Kaithal and Shahabad is regulated by the rules published under Punjab Government notifications Nos. 26, 32, 2 and 25, dated 28th August 1908, 30th May 1910, 22nd January 1909, and 25th April 1910, respectively. According to these byelaws standing sub-committees are appointed for each main branch of administration.

Section F.—Public Works.

I—CANALS.

Canal irrigation in the Karnal District.

By the perennial Baramasi and inundation (Barasati) Canals about three-quarters of the Karnal District is irrigated annually.

Perennial canals.

The Western Jumna Canal system has been fully described in Chapter I, to which reference can be made.

Divisions and Sub-Divisions.

The whole system of irrigation from the Western Jumna Canal is split up into four Divisions, each Division having one branch Canal under it :—

(1) The Sirsa Branch taking off from Indri irrigates the tracts in the Kaithal Tahsil of the Karnal District and is under the charge of the Executive Engineer, Hissar Division, Western Jumna Canal, with head-quarters at Hissar: there is one Sub-Division at Mundri in the Karnal District.

(2) The Main Branch irrigates the Karnal tahsil chiefly and also part of the Panipat tahsil and is in the charge of the Executive Engineer, Karnal Division, Western Jumna Canal, with head-quarters at Karnal. There is a Sub-Division with head-quarters at Karnal in charge of a Sub-Divisional Officer.

(3) The Delhi Branch under the Executive Engineer, Delhi Division, Western Jumna Canal, with head-quarters at Delhi, irrigates the Panipat tahsil, and his charge includes the Binjhaul Sub-Division with head-quarters at Binjhaul about three miles west of Panipat.

(4) The Hansi Branch under the Executive Engineer, Rohtak Division, Western Jumna Canal, with head-quarters at

CHAP. III. F.

Public Works.

Rohtak, irrigates part of the Karnal Tahsil which is included in the Jind Sub-Division of the Rohtak Division, Western Jumna Canal, with head-quarters at Jind, there being no Sub-Divisional head-quarters of the Rohtak Division in the Karnal District.

Divisions and Sub-Divisions.

The officer superintending the Western Jumna Canal is called the Superintending Engineer of the Western Jumna Canal Circle, and has his head-quarters at Delhi.

The Western Jumna Canal from Tajewala to Indri is very irregular, has neither a regular bed slope nor any definite full supply depth. It has also no proper banks. A scheme is under preparation to remodel this length on modern scientific principles.

Inundation Canals.

The only inundation canals in the Karnal District are the Saraswati Canal and the Chautang Drainage Canal.

The Saraswati Canal takes its supply from Sansa Jail, some ten miles west of Thanesar, on the Saraswati Naddi and is now managed by the District Board of the Karnal District.

The Chautang drainage canal receives rain water from the Rakshi, the Chautang and Kali Naddi Drains. It was formerly managed by the Karnal Division, Western Jumna Canal, but has since been transferred to the Hissar Division, Western Jumna Canal. Besides getting rain water the Chautang Canal has an outlet to drain off excess water in the Sirsa Branch during the rainy season into the Chautang Canal. The canal is not a success and nowadays very little water for the Chautang Nala gets into it being dissipated up above : practically its most important source of supply is the Rakshi Naddi and the surplus water of the Sirsa Branch Canal, but the flow is irregular and the irrigated area very small.

A scheme to canalize the Markanda Naddi is under consideration. This scheme, if it matures, will take in all the area on the left bank of the Markanda and to the west of the Delhi-Umbala-Kalka Railway : it would do away with the excessive flooding of the area in the Kaithal tahsil known as the "Naili Tract" and would be a boon to the health of the district.

Roads and buildings.

The roads and buildings in the district are in charge of the Executive Engineer of the Ambala Provincial Division who has his head-quarters at Ambala, and there is a Sub-Division at Karnal. The Grand Trunk Road, which passes from north to south through the length of the district (about 75 miles), and important Provincial buildings are maintained by the Public Works Department and the other roads and buildings have been entrusted to

CHAP. III. G.

Police and Jails.

the District Board for maintenance. The Board is paid a fixed annual sum for each building and road and is responsible for all petty and annual repairs.

Railways.

The district is traversed from south to north by the Delhi-Umbala-Kalka Railway which is a branch of East Indian Railway. It was opened in 1892 and is managed by the East Indian Railway authorities. The District Superintendent in charge has his head-quarters at Delhi.

In addition to this a loop line was constructed from Nirwana (on the Southern Punjab Railway) *viâ* Kaithal to Kurukshetra Junction (in Karnal District) and another loop line from Panipat to Jhind *viâ* Safidon is under construction which, it is hoped, will be opened in 1916.

The line from Narwana to Kaithal is managed by the North-Western Railway authorities and from Kaithal to Kurukshetra by the East Indian Railway authorities.

Section G.—Police and Jails.

Constitution and distribution.

The district lies in the Eastern Police Range. The constitution of the District Police Force is as follows :—

One Superintendent of Police.
One Assistant Superintendent (when available).
One Deputy Superintendent of Police.
One Court Inspector.
One Reserve Inspector.
4 Circle Inspectors.
31 Sub-Inspectors.
84 Head Constables.
573 Foot Constables.
3 Mounted Constables.

The recruits enlisted belong to Karnal or to neighbouring districts of this province or of the United Provinces, and are drawn from the following classes :—Syads, Pathans, Rajputs, Brahmans, Jats, Sikhs and Sheikhs. Good Punjabi recruits are seldom met with.

The Deputy Superintendent of Police, in charge of the Kaithal Police Sub-Division, is stationed at Kaithal. Four Circle Inspectors, in charge of four circles, the boundaries of which correspond to the four tahsils of the district, have their respective head-quarters at Karnal, Panipat, Kaithal and Thanesar.

CHAP. III. G.

Police and Jails.

Prosecutions.

A Court Inspector, attached to the office of the Superintendent, is in charge of the prosecution in cases sent up by the police for trial in the courts at Karnal. A Court Sub-Inspector performs similar duties in Kaithal for the Police Sub-Division there and one Court Sub-Inspector is posted at head-quarters to assist the Court Inspector.

Police Lines and Reserves.

The police lines at Karnal and the standing guards at headquarters are in charge of a Reserve Inspector under whose orders are four Reserve Sub-Inspectors, one of them specially detailed to the lines. The Reserve consists of 101 men, besides two Head Constables and 25 Foot Constables maintained in lines as a first armed reserve.

Police Stations.

Of the 23 police stations, one situated at the Karnal Railway Station, is under the control of the Superintendent, Government Railway Police, Southern Section. Each police station is under the charge of a Sub-Inspector as Station House Officer. The average strength of the force attached to a police station is 10 Constables, 2 Head Constables. Besides these Regular Police Stations, one outpost is maintained under the control of the nearest Station House Officer. The following is the list of police stations (thanas) :—

Karnal Tahsil.	Thanesar Tahsil.	Panipat Tahsil.	
Karnal Sadr ...	Thanesar ...	Panipat Sadr ...	Kaithal.
Karnal City ...	Shahabad ...	Panipat City ...	Guhla.
Nisang ...	Ladwa ...	Smalka ...	Pehowa.
Gharaunda ...	Radaur ...	Urlana ...	Pundri,
Butana ...	Singhaur ...	...	Rajaundh.
Indri ...	Thaska Miranji ...	...	Asandh.

There are also City Police Posts in the towns of Karnal, Panipat, and Kaithal, and a police post chauki) at Pipli on the Grand Trunk Road

Lock-ups and cattle-pounds.

Each police station is provided with the necessary lock-ups for males and females. The police lock-ups at Panipat, Thanesar and Guhla are also used for under-trial prisoners as no judicial lock-ups now exist at these places. There are 20 cattle-pounds under police control, of which 18 belong to the District Board and 2 to the Municipalities.

Army.

Municipal Chaukidars.

The municipalities of Shahabad, Ladwa and Thanesar maintain a Chaukidari establishment which is under police control. The question of substituting regular Police for the present staff is under consideration.

Difficulties in working.

The most difficult police stations to manage are Urlana, Kaithal and Guhla and Thanesar. In Urlana some villages are more than 20 miles from the police station which is located on the very border of the Jind State. The Kaithal police station jurisdiction contains some very large and populous villages and the Station House Officer is responsible for the control of both the rural and municipal police, including the standing guards. The Guhla jurisdiction contains some villages surrounded by the territories of the Phulkian States and 25 miles distant from the police station. Thanesar besides being at all times one of the chosen spots of Hindu pilgrimage is also the scene of the great Solar Eclipse Fair held at intervals of four or five years. On such occasions large numbers of special police are posted to the Fair area.

Karnal as a whole is not addicted to violence though murders and dacoities of a serious nature occur from time to time and the operations of the criminal tribes mentioned in Section B of this chapter occasionally cause trouble. The characteristic crime of the district however is cattle-theft. The aggrieved party as often as not appeals to a self constituted *Punchayat*, or committee of the leading men in a village or tract, in order to secure the return of his animal, instead of reporting the matter to the police. This practice naturally renders the crime extremely difficult to cope with. All classes participate more or less in these offences, but the most prominent thieves are Rajputs and Gujars. The few trackers in the force are far from expert.

Jails.

There is only a sub-Jail at Karnal under the charge of an Extra Assistant Commissioner. At Kaithal, the head-quarters of a sub-division, there is a judicial lock-up and small judicial lock-ups also exist in tahsils.

Section H.—Army.

Recruiting.

The district is an unproductive recruiting ground. The reason for this is partly the unhealthiness of the Naili and Khadir tracts and the resulting poor physique of the people, but more especially the disinclination of the Jats and Musalman

CHAP. III. H.

Army.

Rajputs of the Kaithal, Bangar and Nardak (the healthy tracts) to leave their homes.

Recruiting.

Repeated efforts have been made to induce them to enlist, but with little success. There is fine material amongst the Jats, but unlike their fellow-tribesmen in the adjoining district they show little inclination foı military service. The Rajputs appear to find cattle-lifting a more lucrative employment than soldiering. The extension of the canal to the Nardak and the consequent increase of prosperity and demand for labour has naturally rendered the people even more averse from military service than before. In 1915, however, in consequence of the War with Germany special afforts were made and a far larger number were induced to join the army than ever before. The result, however, was poor compared with the success of similar efforts in the Rohtak District.

Pensioners.

The total sum paid in 1914 to military pensioners of the district was—

	Rs.	
	8,941	to combatant pensioners.
	4,809	to non-combatant pensioners.
Total ...	1,3750	

Military Grass Farm.

The barracks of the old cantonment lying between the Grand Trunk Road and the New Main Line Canal together with 2,078 acres were occupied first by the Government Stud Farm and subsequently in 1876 by General Parott's breeding depôt. In 1891 his establishment was taken over by the Remount Department as a horse-breeding depôt. This depôt was moved to Mona in 1902, and the land and buildings are now occupied by the Military Grass Farm which supplies fodder and dairy produce to the troops at Ambala and other military stations. The farm is under the immediate control of a Staff Sergeant and some assistants subordinate to the Director of Military Farms. About 805 acres are annually under grass and fodder crops, some 1,070 acres being reserved for cereals. A sterilizing and separating machine deals with milk collected at various agencies throughout the district, the cream being sent into Ambala Dairy.

Transport Registration.

For the purposes of Transport Registration the district is divided into 30 sub-circles, which are composed, usually, of two zails with an average area of about 100 square miles. A "Halqedar" or Registration Assistant is in charge of each

CHAP. III. I.

Education.

Transport Registration.

"Halqa." Some 1,600 draught bullocks suitable for military Transport used to be registered and there is very little doubt that double this number could be found if necessary. The registration system is, however, now given up and each circle is merely expected to provide a certain allotment when required.

The best bullocks are, as a rule, of an exceptionally fine stamp, being almost entirely of the famous "Hansi" breed. These are found on the higher portions of the district away from the low lands adjoining the river.

It is estimated that from 200 to 300 of the best carts suitable for military purposes could be obtained when required.

Camels are not numerous, such as belong to the district being generally employed at Delhi and other large towns where their owners ply for hire. The Kaithal Tahsil, affording, as it does, large areas suitable for their grazing, produces the largest number. It is estimated that some 150 to 200 good camels, suitable for military transport purposes, could be hired when necessary.

Some good ponies are bred in the district, but these are of too good a stamp for transport purposes. The district is expected to provide only a few ponies for transport, riding, draught and ambulance.

Mules.

The district is estimated to contain 200 mules, of which not more than 20 or 30 are fit for Army Transport purposes. Very few good mules are bred in the district, such as there are being usually sold whilst still immature at Amritsar and other fairs for use in the hills or in Government departments. The owners of mules are nearly all Kumhars who do not hesitate to load them at two years of age, thereby stunting their development.

Section I.—Education.

The number of Private Schools on 31st March 1915 was 24 for boys and 4 for girls with 368 and 47 pupils, respectively. The number of these schools has considerably decreased of late years owing to the increase in District Board and Aided Schools. The general subjects of instruction are Urdu, Hindi, Mahajani, Arabic and Sanskrit taught by rote. The schools are rarely inspected by Government officers and are practically uncontrolled. The system of teaching is antiquated but useful and thorough.

There were 1 girls' and 11 boys' unaided schools of the primary standard at the close of the year 1914-15. With one exception all have since been brought on the aided list. An Anglo-Vernacular High School was started at Panipat designated

CHAP. III. I.

Education.

the Hali Moslem High School, Panipat, the Manager of which has applied for grant-in-aid which is likely to be sanctioned shortly.

There is an aided Anglo-Vernacular Upper Primary School maintained by the Jain community at Panipat which is likely to be raised to the Middle standard. Besides this there were 14 aided indigenous schools for boys and 5 for girls on 31st March 1915. Of these 4 are maintained by the Muhammadan community, 5 by private Muhammadan teachers and managers, one by the Sikh Sabha, Shahabad, 2 by the Hindu Sanatan Dharm Sabha, one by a Hindu teacher and one for low caste boys by the S. P. G. Mission. Out of 5 girls' schools two are maintained by the Hindu community and 3 by private persons.

The number of scholars in the Government High School, Karnal, including the Branch school formerly located in the city, and now transferred to the main school buildings, was 339 on 31st March 1915. The handing over of the old hospital buildings to the Government school has greatly increased the accommodation. It has been converted with necessary alterations into a commodious boarding-house where 80 boarders can reside easily and a separate room is now allotted to each class or section of a class. The number of passes in the Matriculation Examination from the school in 1915 was 17 out of 24 candidates sent up. The school has earned distinction in athletics and games of all kinds, and is progressing satisfactorily. In addition to the Government High School there is a Government Normal School for male teachers at Karnal, turning out yearly about 80 new teachers after giving them training for a year. It has a primary department attached to it serving for the pupil teachers as a practising school. The number of pupils at this practising school (known as the Model school) at the close of the year 1914-15 was 165, all detached from the Primary Department of the Government High School.

The number of Board Schools for girls was 19 on 31st March 1915. Of this number 11 are maintained by the District Board and 8 by the Municipal Committees. Four of these give instruction in Urdu and the rest in the Deo Nagri language.

The Panipat Anglo-Vernacular Middle School has now 3 branches instead of 2 formerly attached to it. Numbers have lately fallen in this school, being 234 at the end of the year owing to the starting of the Hali Moslem High School. The staff of the Municipal Board School is now sufficient, though all of them are not trained teachers. The Kaithal Anglo-Vernacular School has continued its progress. he roll now stands at 252. Accommodation has also been increased by the erection of 4 new class rooms and boarding-house has been completed.

CHAP. III. I.

Education.

Vernacular Middle Schools.

There are 5 Vernacular Middle Schools, 3 of which are maintained by the District Board and 2 by the Shahabad and Thanesar Municipal Committees. The attendance at Pundri School in March 1915 was 185, while at Ladwa it was 107. The staff is now fairly competent and improving year by year. The boarding-houses at Ladwa and Kunjpura lately built afford sufficient accommodation for the present needs of the institutions, while the others still stand in need of commodious buildings which it is hoped will shortly be provided.

There were 8 branch schools at the end of the year 1914-15. The branch at Kaithal has during the last five years been amalgamated with the main school, while 2 new branches have been opened, one at Karnal and one at Panipat. The Shahabad Branch continues to be the most flourishing.

The number of District Board Primary Schools has increased from 70 in 1901 to 99 in 1914-15. The distinction between Primary and Zamindari as well as between town and village primary schools no longer exists. All vernacular primary schools adopt the same curriculum. Thirty schools have got one or more assistants. Efforts are being made to make these schools more popular with agriculturists by properly arranged time-tables limiting the hours of attendance to a minimum.

Two sons of gentlemen of rank are reading in the Chiefs' College at Lahore.

Education cannot be said at present to be popular with the majority of the agricultural classes. But great efforts are being made with the aid of Government grants to extend the number of schools as far as possible and undoubted progress has been made. The gross expenditure on education and educational buildings rose from Rs. 43,572 in 1900-01 to Rs. 92,257 in 1914-15. The pay of teachers has been greatly improved and the department now affords a good means of livelihood and fair prospects of advancement. New school buildings are being erected, although much still remains to be done. New schools are being opened every year. The supply of trained teachers is increasing owing to the larger number of training schools and the better prospects now existing in the Educational Department. But there is much room for improvement in the teaching establishment. More attention is being paid to discipline and to the physical and moral training of the boys. The annual district and divisional tournaments stimulate the playing of healthy games, which are becoming increasingly popular.

Section J.—Medical.

CHAP. III. J.

Medical.

There are 11 dispensaries in the district, all maintained by the District Board. A Sub-Assistant Surgeon is in charge of each dispensary, but the King Edward Memorial Hospital in Karnal and Panipat dispensary are in charge of Assistant Surgeons. One of the dispensaries itinerates in the villages for about 6 months in the year, affording treatment to people at their homes. This is greatly appreciated by the villagers.

Besides these there are two canal dispensaries, one of which is open to the public, towards which the district board contributes Rs. 600 per annum, and one Police Hospital. The whole department is under control of the Civil Surgeon of the district.

The King Edward Memorial Hospital in Karnal was made at a cost of 2½ lakhs in 1912 from District Board and Municipal funds and private subscriptions aided by a grant of Rs. 10,000 from Govt. It is a very fine and well-designed building, situated in a large compound, and is very well staffed and equipped. It has separate arrangements for treating female patients as well as infectious cases, and affords total accommodation for 114 in-patients, including 10 rooms for paying patients and one for European gentlemen. The floors and walls of the dressing, dispensing, operation and office rooms are of marble. The water-supply arrangements are very efficient, consisting of an elevated reservoir tank to which water is pumped by an oil engine and a distributary arrangement of pipes. A Dhobi ghât and a Bania's shop are situated inside the hospital compound.

The St. Elizabeth Zenana Mission Hospital in Karnal City supported by the S. P. G. Mission is intended for female patients only.

The total annual expenditure on medical relief amounts to Rs. 64,458 exclusive of the Police and Canal Dispensaries and of the pay of the Civil Surgeon.

Vaccination is being carried out everywhere in the district and is compulsory in the Karnal and Kaithal municipalities. Revaccination, although carried out, is not popular yet.

Sanitation in villages is still practically non-existent and in the towns is far from satisfactory. But with the appointment of trained Sanitary Inspectors in the municipal towns of Karnal and Panipat matters are gradually improving.

Plague has made regular visits every year ever since 1902. The attitude of the people towards anti-plague measures is still apathetic and it requires great tact and effort to persuade

people to submit to rat destruction and inoculation. There have been a few instances of actual resistance to anti-plague measures.

Cholera visits the district almost every year ; the infection is almost invariably brought by the Hardwar pilgrims. There is not so much opposition to treatment of wells with permanganate, but there is still a tendency to hide cholera cases.

Malaria appears to be getting less virulent. The drain age system and arrangements of silting reaches made by the Canal Department have improved the situation of late years and quinine is freely distributed, but there are still several bad malarious tracts.

Section K.—Miscellaneous.

Arms licenses.

There were 511 licenses to carry arms current in the district in 1915. These cover 9 rifles, 459 guns, 82 swords and 32 revolvers and pistols. In the Karnal Tahsil 234 licenses were in force, in Panipat 64, in Thanesar 137 and in Kaithal 106. These include 262 licenses for protection of crops. The following persons are exempt :—

Nawab Muhammad Ibrahim Ali Khan of Kunjpura ; Nawab Rustam Ali Khan, Mandwal, of Karnal ; Khan Bahadur Umardraz Ali Khan, Mandwal, of Karnal ; Sardar Ujjal Singh, Sardar Man Singh and Gurdit Singh, sons of Desa Singh ; Hoshhigat Singh, Bhagwan Singh and Jowala Singh, sons of Chobail Singh, Jagirdars of Dhanaura ; Sardar Gurdit Singh of Shamgarh ; Sardar Telok Singh of Sikri ; Bhai Shamsher Singh of Arnauli ; Bhai Zabarjang Singh, Jagirdar of Sidhowal ; Faiz Ali Khan, Jagirdar of Karnal; Muhammad Hussain Khan of Biana, Jagirdar ; Asad Ali Khan, Hussain Ali Khan, Salamat Ali Khan, Raza Ali Khan, Jagirdars of Karnal ; Sher Singh and Khizan Singh of Labkari.

Monkeys, black buck, chinkara and wild pig do a lot of damage to the crops, especially the first, and the boon of holding gun licenses for the protection of crops is much appreciated.

Court of wards

Three estates in this district are under the Court of Wards. That of Sidhowal was taken over in July 1894. It was released on 21st December 1909, but was again taken over on 7th February 1911. The yearly income now averages Rs. 64 000 and the estate has Rs 1,48,615 cash and 11 squares were purchashed for the Ward in the Lyallpur District. The Ward Bhai Zabarjang Singh was 27 years of age in 1915 : he was educated at the Aitchison Chiefs' College, Lahore, and is now Manager of his own estate. Besides villages in this district, the Bhai's Jagir includes

the Budladha ilaqa in the Hissar District and some villages in the Ferozepore District. The estate of the late Nawabzada Shamsher Ali Khan, Mandal, was taken over on 27th August 1908. The average annual income is estimated at Rs 37,000. The ward was 12 years old in 1915 and is being educated at the Aitchison College, Lahore. There are no liabilities. Average expenditure is estimated to be Rs. 28,000 per annum.

CHAP. III. K.

Miscellaneous

Court of wards.

The estate of the late Zafar Hussain Khan, Mandal, was taken over in October 1909. The ward was 12 years old in 1915 and is being educated at the Aitchison College, Lahore. The average annual income is Rs. 12,000, the average expenditure is Rs. 8,000 and there are no debts outstanding.

Registration.

The Deputy Commissioner acts as Registrar, and each Tahsildar is a Joint Sub-Registrar for his tahsil. There are also Departmental Sub-Registrars at Karnal and Kaithal, Thanesar and Panipat. The registration work of the district has diminished since the introduction of the Land Alienation Act.

CHAPTER IV.

Places of Interest.

Karnal town.

Karnal town, where the head-quarters of the Karnal district and of the Karnal tahsil are situated, is on the old bank of the Jamna, about seven miles from the present course of that river. It is a station on the Delhi-Umballa-Kalka Railway. The population is about 23,000. Its name is derived from Karna, the rival of Arajana in the epic of the Mahabharata, by whom it is said to have been founded. It would seem to have been a place of little importance in early historical times, as no mention of it occurs until towards the end of the Pathan period. Karnal was plundered in 1573 by Ibrahim Hussain Mirza in his revolt against Akbar, and its neighbourhood laid waste by Banda Bairagi in 1709. In 1739 it was the scene of the defeat of Muhammad Shah by Nadir Shah. After the fall of Sirhind in 1763 the town was seized by Gajpat Singh, Raja of Jind, but in 1775 it was recovered by Najaf Khan, Governor of Delhi. It again fell into the hands of Gajpat Singh, but his son, Bhag Singh, lost it to the Marathas in 1787, and it was subsequently made over by them to George Thomas. It then came into the hands of Gurdit Singh of Ladwa, from whom the British took it in 1805. A cantonment was formed at Karnal which was abandoned in 1841 owing to the unhealthiness of the station. The place is still unhealthy, though drainage and sanitation have done much to improve its condition. There is a fine marble tomb built by the Emperor Ghyas-ud-din to the memory of the saint Bu Ali Qalandar. The Society for the Propagation of the Gospel has a mission at Karnal and also maintains a female hospital and dispensary. A new Civil Hospital, equipped with the most modern appliances, was opened in 1912. The cost was defrayed by subscriptions from the district as a memorial to the late King Emperor Edward VII.

The municipality was created in 1867, the income being mainly derived from octroi. The chief manufactures are country cloth for local consumption and shoes. The principal educational institution is the Anglo-Vernacular High School managed by the Education Department.

Panipat town.

Panipat is built upon a small promontory round which the old bed of the Jamna flows, and the city is well raised on the accumulation of centuries. The town is embowered in trees and the white buildings shining through them present a pleasing appearance. The city must in old times have been of much larger size than it now is, and Jacquemont describes it as the largest city

except Dehli which he saw in Northern India. Ruins of old shrines extend to a considerable distance round the town, and many mosques, shrines and gardens of very considerable pretensions still existing, but now in sad disrepair, tell of former importance.

The town is of great antiquity, dating back to the period of the war between the Pandavas and the Kauravas, when it formed one of the well-known five "pats" or "prasthas" demanded by Yusdishthira from Duryodhana as the price of peace. During Muhammadan rule Panipat was closely associated with the principal events already described in the historical chapter of this gazetteer (Chapter I, section B), and the plains near the city have thrice formed the scene of decisive battles which sealed the fate of Upper India.

In the first battle of Panipat (1526 A.D.) Ibrahim Lodi was slain and was buried near the city. It was one of Sher Shah's dying regrets that he had never fulfilled his intention of erecting a tomb to the fallen monarch. A memorial of some kind, however, appears to have existed which used to form a place of pilgrimage for the people of Gwalior, since the last Raja of the old Tomara dynasty of Gwalior fell in the same battle. This memorial, according to General Cunningham, was destroyed when the Grand Trunk Road was made. In 1866 the District Committee built a masonry platform, with an inscription commemorating the Sultan, just outside the octagonal tower of a garden wall standing between the tahsil and the city. After the battle Babar built a garden with a mosque and tank as a record of his victory and in 1556 A.D., when Humayun defeated Salem Shah some four miles north of Panipat, he added a masonry platform and called it Chabutra Fatteh Mobarak. These buildings and the garden still exist under the name of Kabul or Kabil Bagh. Till about 20 years ago a black mango tree in the village of Sua Kheri to the north-west of the city marked the site of the third battle of Panipat (1761 A. D.)

The principal building of antiquity within the city walls is the Dargah Qalandar Sahib. Bu Ali Qalandar was the son of Salar Fakir-ud-din, and is supposed to have been born in 602 A.H. and to have died in 724 A.H. This tomb, with the exception of the pillars of the *dalan*, or hall, which are of touchstone, was erected by Khizi Khan and Shadi Khan, sons of the Emperor Khilji. The touchstone pillars were erected by one Razakulla Khan, son of Nawab Mubarak Khan, a Hakim in the service of the Emperor Akbar.

CHAP. IV.
Places of Interest.
Panipat town.

Under British administration Panipat has made steady progress. Mr. Ibbetson attributed the unhealthiness of the place to the Rer Escape, but the arrangements for carrying off flood water have been improved and Panipat to-day is considered more healthy than Karnal The atmosphere is less heavy and the drinking water purer.

The internal administration of the city is in the hands of a municipal committee of the second class originally constituted in 1867 and at present consisting of sixteen members, of whom five, including the Tahsildar as president, are appointed by Government. Since 1906 the municipality has employed a paid Secretary. The income averages Rs. 30,000 per annum, the chief objects of expenditure being the schools, the hospital, and the municipal police. The committee supports one Anglo-Vernacular Middle School, with two Primary Branches, the " Ansar " and the " Rajput " branches. There are also two aided indigenous schools and one District Board School for girls.

The city is well lighted, and well kept. The streets are for the most part narrow, but the main bazaar is sufficiently broad for a carriage and pair to drive through. There are two police stations, one for the city and one for the surrounding villages, but crime is light.

The old district offices approached by fine avenues of trees lie about a mile from the town and are now used as a rest-house. Close by are the ruins of the old jail.

The opening of the Dehli-Umballa-Kalka Railway has brought some increase of commercial prosperity to the town which now contains three cotton-ginning factories and one cotton press. The manufacture of copper vessels for export is of some importance. There are several large establishments for the manufacture of glass for ornamenting women's dress. The glass is blown into large globes, and into these, while still hot, some amalgam is poured and the globes turned about, receiving an internal coating of quicksilver. They are then broken up into small pieces which are used as spangle ornaments by women for their dress and for the decoration of the walls of rooms. The only other manufactures are cutlery and the making of silver beads in imitation of pearls.

Out of a population of some 26,000 only 7,000 are Hindus, including some 700 Jains, who have recently built a very fine temple in the centre of the town. The owners of the valuable town lands are Rajputs, Ansaris, Makhdumzadas and Afghans, the

CHAP. IV. — Places of Interest. — Panipat town.

whole estate being free of revenue. Mr. Ibbetson's description of the Mussalman of Panipat is well-known. But it is only fair to add that the present generation have shown a praiseworthy desire to profit by the educational advantages of institutions such as the Aligarh College and enter Government service and embark in private enterprises with considerable energy. Panipat enjoys some reputation as a literary centre, the works of the modern poet "Hali" are well known in India, and have been translated in England.

Kaithal town.

Kaithal is a municipal town and administrative head-quarters of a tahsil of the same name and the station of an Assistant Commissioner in independent charge of the sub-division. It has a population of 13,000, consisting of 7,000 Hindus and Sikhs and 6,000 Muhammadans. It is picturesquely situated on the bank of an extensive artificial lake or moat, which half surrounds it, with numerous bathing places and flights of steps. A high wall, partly pakka and partly of mud, encloses the opposite side of the town. It has eight gateways, of which the Karnal gate to the east, the Keorak and Surajkund gates to the north, and Kasai gate to the west, are the principal ones. Most of the streets are well paved or metalled, but are nearly all narrow and crooked. The principal buildings of antiquarian interest are as under :—

1. *Tomb of Sheikh Shahab-ud-din, Balkhi, at the Siwan gate.*—This prince is said to have come from Balkh to Hindustan in 673 Hijri; he was slain in battle at Kaithal; his grandson built this tomb to his memory; the pillars and cupola are entirely of stones; the inscription is in Arabic on the cupola; the *tawiz* was removed from the tomb by one of the Rajas of Kaithal.

2. *Masjid of Sheikh Tayub.*—Built by himself in the time of the Emperor Akbar Jalal-ud-din; the cupola is coated with enamel.

3. *Tomb of Shah Wilayat.*—It was built in the reign of the Ghoris. Shah Wilayat's father built the tomb. Some lands in the village of Siwan are released for the support of this shrine.

4. *Tomb of Shah Kamal.*—Faqir Shah Kamal is said to have come from Baghdad 250 years ago; the tomb was erected by his descendants; twice every year a fair is held at the spot: lands and a well have been released for the support of the shrine.

5. *Asthan Anjni, mother of Hanuman.*—This temple of Anjni, the mother of Hanuman, was lately repaired by the Hindus of Kaithal.

CHAP. IV.

Places of Interest.

Kaithal town.

The ruins of the old fort, or residence, of the Kaithal family stand out prominently on the high bank of an extensive artificial lake of irregular form, which sweeps half round the town, and seems to have been partly made by the excavation of bricks for building the town and fort, and partly formed to act as a moat for defence. Its margin is ornamented with extensive flights of steps leading down to the water, and with numerous bathing places for men and women, all built of solid masonry. The tank is one of the holy places of the Kurukshetra.

This town is said to have been founded by the mythical hero Yudisthira, and is connected by tradition with the monkey-god Hanuman. It bears in Sanskrit the name of Kapisthala, or the abode of monkeys—a name which still applies. The town was renovated, and a fort built under Akbar. In 1767 it fell into the hands of the Sikh chieftain, Bhai Desu Singh, whose descendants, the Bhais of Kaithal, ranked amongst the most important and powerful Cis-Sutlej chiefs. Their territories lapsed to the British Government in 1843. For a few years Kaithal formed the head-quarters of a separate district; but in 1849 it was absorbed into the district of Thanesar, and again transferred in 1862 to that of Karnal (see Chapter II). The ruins of the fort or palace of the Bhais stand out prominently on the bank of the lake.

The municipality of Kaithal was first constituted in 1867. The committee now consists of thirteen members, four of whom are appointed by Government. The Sub-Divisional Officer is *ex officio* president. The annual income is about Rs. 20,000. The Committee assists in the support of a medical dispensary, and keep-up an Anglo-Vernacular Middle School with the aid of a Government grant. A boarding-house is attached to the school, but the building is old, badly lighted and poorly ventilated. A new building is in contemplation. The town also contains an Islamia School which is State aided, a girls' school, and Arya Samaj and indigenous Hindi School.

Trade is not brisk. The only indigenous manufactures are lacquer work and the weaving of course blankets. The lacquer work takes the form of decorated toys, household utensils, and the legs of charpoys. The centre of trade was formerly within the town, but since the opening of the Southern Punjab Railway a *mandi* was constructed by the District Board for the convenience of through traffic. A site was taken up, and sold in parcels for shops, the profits on the transaction being expended for the benefit of the market. The *mandi* now contains a post

CHAP. IV — Places of Interest. — Kaithal town.

and telegraph office and a metalled road has been constructed. Expenses are met by the levy of a shop tax of ten annas per mensem. The *mandi* was constituted a notified area in 1909.

Five factories for cotton ginning and pressing, rice-husking and corn-grinding have been built in the vicinity of the station, but although success attended the first enterprise, they have proved too numerous for the demand. It is, however, anticipated that the branch line of the Delhi-Umballa-Kalka Railway recently constructed between Kaithal and Thanesar will make Kaithal an important trading centre.

Thanesar.

Thanesar is the head-quarters of the tahsil of the same name in Karnal District, Punjab, situated in 29° 59′ north and 76° 50′ east, on the banks of the Saraswati, and on the Dehli-Umballa-Kalka Railway. It is famous as the most sacred place in the holy land of Kurukshetra, its name meaning "the place of the god" (Staneshwara). In the time of Hiuen Tsiang, Thanesar was the capital of a Vaisya (Bais) dynasty, which ruled parts of the Southern Punjab, Hindustan, and Eastern Rajputana. In A.D. 648 a Chinese ambassador was sent to Harshavardhana of Thanesar, but found that the Senapati Arjuna had usurped his kingdom, and the dynasty then became extinct. Thanesar, however, continued to be a place of great sanctity, but in 1014 it was sacked by Mahmud of Ghazni, and although recovered by the Hindu Raja of Delhi in 1043 it remained desolate for centuries. By the time of Sikandar Lodi it had, however, been in some measure restored, for that emperor proposed to make a raid on it to massacre the pilgrims. In 1567 Akbar witnessed its great fair; but Aurangzeb desecrated the shrine and built a castle in its sacred lake, whence his soldiers could fire on pilgrims who attempted to bathe. At the annexation of the cis-Sutlej territory, the town and neighbourhood were in the possession of a Sikh, but they lapsed to the British Government in 1850. Thanesar was the head-quarters of a British District till 1862, but has since steadily declined in importance. The municipality was created in 1867. The town possesses a Vernacular Middle School and a Dispensary.

A bathing fair is held on the occasion of a solar eclipse, and is attended by pilgrims in numbers sometimes exceeding half a million, numbers which have increased since the completion of the railway. The sacred sanctity of the Sanyahet tank is due to the legend that on the occasion of the solar eclipse all the tanks and rivers of the Punjab come to visit the Sanyahet so that he who dips himself during the moment of the eclipse attains

CHAP. IV. — Places of Interest. — Thanesar.

the merit of having bathed in all these waters and many old and infirm come in the hope that they may die in the tank. The mosque adjacent to Sheikh Chili's tomb, itself a beautiful specimen of Moslem architecture and marble carving, is famous for the blue and yellow tiling on its roof and cupola. The temple of the Karus and the Pandus is displayed to every visitor, but it is less easy to view the shrine of Kali, depicted as gloating over a human sacrifice in a room apart.

Shahabad.

Shahabad, with a population of some ten thousand persons, is situated close to the Grand Trunk Road, 12 miles distant from Ambala and 35 from Karnal. The Kharindwa station of the Delhi-Kalka Railway is only a short distance from the town. Shahabad was founded after the battle of Tirauri in 1192 by a follower of Shahab-ud-din-Ghori, the first Musalman conqueror of Dehli. The troops who were settled in the new town were granted 52,000 bighas of revenue free land, and the enjoyment of the revenue of several neighbouring villages. Shahabad itself was attached for purposes of administration to the province of Sirhind.

In 1525 A.D. the town assisted Ibrahim Lodi and in the following year was pillaged by his conqueror, Babar, the first Moghul Emperor. When the Sikhs came into power during the latter half of the eighteenth century Guru Banda Bairagi attacked the town which surrendered after vain appeals for help from Delhi. The Sikhs divided Shahabad into seven pattis, the leading Sirdars of each *patti* distributing a rough justice. Ranjit Singh exacted tribute from them. When British suzerainty was established in 1802, the Sirdars of Shahabad elected to retain their administrative powers. But in 1850, after the capture of Lahore, the British assumed the reins of Government, the jagirs only remaining to the Sikhs.

The sacred buildings of the town reflect its history. The mosques, with their dark, squat domes are typical of Pathan architecture. Of these one of the finest shows the marks of Sikh bullets and has since been converted into a Gurdwara, to the perpetual discontent of the Moslem population. It is now called *Mastgarh*, *mast* being a corruption for *masit* or *masjid*. The curious spectacle of five Granths Sahibs enshrined in a mosque adds unusual interest to the building. An indigenous Gurmukhi school is attached to Mastgarh.

The Royal Sarai is one of the oldest buildings in the town. Constructed earlier, it was protected in the time of Shah Jahan

CHAP. IV. — Places of Interest. — Shahabad.

by a fortified wall in a style that recalls the red fort at Dehli. It contained the residence of certain Moghul officials, but it is most probable that the Sarai also was maintained with the main road to Delhi passing through it.

The Sikhs, though only about one-sixth of the population, are the dominant element in the town. A considerable number find employment in the army or police. The Mussalmans are a mixed population of Sheikhs, Sayads, Pathans, Rajputs and Arains. The town, which is the head-quarters of a thana, is managed by a Municipal Committee of six, all of whom, including the Tahsildar as President, are appointed by Government. The income averages Rs. 15,000. The principal objects of expenditure are the unkeep of the paved streets, the maintenance of a dispensary, the town police and a Vernacular Middle School with one branch. The District Board maintains a girls' school. The streets of the town are narrow, somewhat dirty and very tortuous. There is one post and telegraph office.

Pehowa.

Pehowa, an ancient town and place of pilgrimage in the Kaithal tahsil of Karnal District, Punjab, is situated in 29° 59′ north and 76° 35′ east, on the left bank of the sacred Saraswati river, 16 miles west of Thanesar. It lies in Kurukshetra, and its name is said to be a corruption of the Sanskrit Prithudaka, the "Pool" of Prithu, the son of Raja Vena. Two inscriptions, dating from the end of the ninth century A.D., found at Pehowa, show that it was then included in the dominions of Bhoja and his son Mahendrapala, king of Kanauj. The more important inscription records the erection of a triple temple to Vishnu by a Tamur family, but no traces of ancient buildings remain, the modern shrines having been erected within the last century. After the rise of Sikhs to power Pehowa came into the possession of the Bhais of Kaithal whose palace is now used as a rest-house; but with Kaithal it lapsed to the British Government, and has since lost its importance, the population having decreased from 3,408 in 1881 to 2,080 in 1901 and 1,796 in 1907. It is still, however, a place of pilgrimage: and close to it are the temples of Pirthudakeshwar or Pirthuveshwar, built by the Marathas during their supremacy in honour of the goddess Saraswati (Sarsuti) and of Swami Kartik. The latter is said to have been founded before the war of the Mahabharata in honour of the war god of Kartaya. The modern town possesses a dispensary and a District Board primary school. The town contains two specially famous tanks sacred, the one to the Brahma, the other to the holy mother Sarusti. The Sarusti tank is the scene of an annual bathing fair held in March or April and attended by from half a lakh to a lakh of persons. The fair lasts

CHAP. IV. Places of Interest. Pehowa.

for three days, the final ablutions taking place at the dark of moon by torchlight, the great majority of the people vanishing by the dawn of the day. Several interesting remains are enumerated in the Report of the Punjab Circle Archæological Survery for 1888-89; the most important of which is the carved doorway placed in its present position in a temple by Captain Lowis, late Deputy Commissioner of Karnal. Near the temple of Siddgir an ancient gargoyle was found, and some carved stones and inscriptions are to be seen in various parts of the city.

Samalka.

Samalka, a village owned chiefly by Jats and with a population of 2,116, is a station on the Delhi Umballa-Kalka Railway, midway between Karnal and Dehli. It is the head-quarters of a thana, and a rest-house (Public Works Department inspection bungalow), and a District Board Village Primary School are maintained. The serai, noted by Mr. Ibbetson in 1880 A.D., as being a fine specimen of Moghal architecture, was demolished and the bricks sold for ballast to the Dehli-Umballa-Kalka Railway. A cotton-gining factory was erected in 1899 and employs in the busy seasons as many as 100 operatives drawn from Samalka and the surrounding villages. In the cold weather a large quantity of *gur* from the great sugar market, Chhaprauli, in the Meerut District, is carried across the Jamna on camels and placed on the railway at Samalka Station. There is also a considerable export of *ghi*.

Siwan.

A large Rajput village, seven miles north-east of Kaithal, situated on the banks of the Sarusti river. There are a large number of wealthy Mahajans. In 1907 the population was 5,264. The name is a corruption of Seoban or Sitaka-ban: and it is said that the site was once the jungle home of Sita, the wife of the Hindu God Ram Chandar. A tank, on the four corners of which wells were sunk, still exists in her honour, but two of the wells have now fallen in.

The estate is the most prosperous one in the Naili tract, the result of the annual damming of the Sarusti stream. It possesses a large amount of common land which has been divided by pattis and thilas: and in 1910 the richest of the pattis were making the income derived from their common land the basis of a patti co-operative credit society for which a successful future is anticipated.

The damming of the river used always to be cause of much discontent on the part of the villagers lower down, but in 1907,

CHAP. IV.

Places of Interest.

Siwan.

at a cost of much voluntary labour and Rs. 10,000 a seven-arched masonry regulator, known as the Polar Regulator, was thrown across the stream. Of this Rs. 10,000 Government made a grant of Rs. 2,500 as a contribution towards the bridge over which will pass the Patiala-Kaithal road, when realigned. The remaining Rs. 7,500 was advanced as a taccavi loan to the village. The water-courses fed by this Regulator flow when there is eight feet of water at the Regulator and the water is forced from the channels on to the fields by small masonry dams constructed in the water-courses. The village possesses a town primary school, a cattle-pound and a post office.

Teh Pohlar.

Within the estate of Siwan, and close to the Regulator to which it has given its name, is the "Teh Pohlar" the site of a very ancient village which is said to have been founded, to have flourished and been destroyed before the wars of the Mahabharata commenced. In 1887 it was recorded that coins of a very ancient date were to be found there during the rainy seasons, but these are no longer found. Hindu mythology speaks of the village as Paluster,* the fabled home of Rawan Palustu-muni. An ancient bridge, the foundations of which can still be traced near the Pohlar Regulator, was destroyed in the Mahratta invasions.

Fattehpur.

The village of Fattehpur, "the place of victory," lies three-quarters of a mile to the north of Pundri. It was founded by Ala-ud-din in commemoration of the news which reached him when encamped on the site informing him simultaneously of the victory of his army and the birth of his son. The tribes whom he settled there were Kalals and Gujars from Pundri; but while the former continue to flourish the latter have become extinct.

The village contains a school and a rest-house, the supplies to the latter being furnished in monthly turns by the shop-keepers of Fattehpur and Pundri. The estate is commanded by the Sirsa Branch and contains five water mills, the leases of which are auctioned annually and usually fall to Panjabi Banias.

On the eastern side of the village is the tomb of the holy warrior Kutab-ud-din of Balkh, together with that of two companions who fell with him in battle fighting on behalf of Shahab-ud-din Ghori. The tombs and a garden of some four bighas including a well are surrounded by a brick wall, and within the enclosure is a small mosque said to have been erected by Ala-ud-din to the memory of the warrior on the occasion of the

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* Sanskrit, marsh, Latin palus.

CHAP IV. Places of Interest.

founding of the village. In 1685 A.D. Aurangzeb directed that 30 bighas of land be assigned for its support, but this muafi was subsequently confiscated.

Thaska Miranji.

Thaska Miranji, with a population in 1907 of 2,664, contains a school, a post office, and a police station, but is difficult of access, except in dry weather because of the spilling and bifurcations of the Markanda and the Sarusti. The Markanda indeed actually washes the tomb which has made the village famous. This tomb, "Sahib Miranji," is of pure white marble, and of an architecture resembling that of Sheikh Chili in Thanesar, and is partly supported by assignments of land revenue. The village is the head-quarters of a tribe of Biloches infamous throughout India for their thefts and burglaries.

Pharal.

Pharal is a large village of Brahmans and Rajputs built on a high eminence and situate about five miles from the Kaithal-Karnal road. It is celebrated because of the bathing fair held whenever the Amawas in the month of Asouj falls on a Monday. The holiness of the tank is ascribed partly to the fact that it lies within the bounds of the Kurukshetra, and partly to a legend which states that some five thousand years ago the site of the tank was visited by an ascetic of such exceeding piety that by his prayers the sanctity of a tank near Benares, till then held sacred, became transferred to Pharal.

There is a branch post office and Government primary school, at which both Nagri and Urdu are taught.

Ladwa.

Town in the Thanesar tahsil of Karnal district, Punjab, situated in 29° 59′ north and 77° 3′ east. Population (1907) 3,403. The town and neighbourhood belonged to a Sikh family and were confiscated in 1846 in consequence of their conduct in the first Sikh War. The place is of no commercial importance. The municipality was created in 1867 and abolished in 1908, the town being converted into a notified area. It contains a rest-house, a police station, a vernacular middle school, and a post office.

Indri.

A decadent village, containing now only 1,266 inhabitants. The village is owned almost entirely by the Nawab of Kunjpura. The present Nawab Ibrahim Ali Khan has built a bungalow, but the fort, which must be of great antiquity, is now uninhabited and in ruins. The surrounding country suffers from water-logging caused by the heading up of water at the Indri Canal lock. Attempts have been made to remedy this state of things

CHAP. IV.

Places of Interest.

by silting reaches, but the only premanent cure for the evil is the realignment of the canal. The swamps are a favourite resort of wild fowl of every description.

Indri.

The village contains a canal rest-house, branch post office, and a town primary school. A fair is held every Tuesday.

Radaur.

Radaur is a small town of 3,585 inhabitants containing two primary schools, one for boys and one for girls, a branch post office and a police station, but is not important as a commercial centre.

Kunjpura.

(The heron's nest.) An estate, founded by Najabat Khan, a Ghorgashat Pathan and soldier of fortune under the Moghal emperors. Najabat Khan built a stronghold in the marshes of the Jamna early in the eighteenth century and then revolted against the Imperial Government. Siding with Nadir Shah in 1739, Najabat Khan was recognized by him as Chief of Kunjpura and held it till he was killed in 1760, when the Mahrattas razed his stronghold to the ground. His son, Diler Khan, received large grants of territory from the Durranis, but he and his successor were driven out of their land west of the Jamna by the Raja of Jind and other Sikh Chiefs. In 1787, however, Sindhia expelled the Jind Raja from Karnal, and ten years later General Perron recognized Gulsher as Nawab of Kunjpura. His son, Rahmat Khan, who succeeded him in 1801, allied himself to Lord Lake and in 1811 was recognized as a protected chief by the British Government. In 1846 the Nawab of Kunjpura lost his sovereign powers. The present Nawab Ibrahim Ali Khan succeeded in 1886. He holds a jagir of 38 villages with a revenue of Rs. 31,000, besides which his estate yields an income of nearly Rs. 32,000.

Pipli.

Pipli, once the head-quarters of a tahsil which was removed on 1st October 1897 to Thanesar, is now a deserted village on the Grand Trunk Road with a population of 147 and a few ruins to mark its former story. A police road post, however, and a D. P. W. road bungalow are maintained there, the place being still used as an encamping-ground.

Barsat.

A village owned by Sayads who trace descent from Abdul Farah of Wasat in Arabia, a companion of Mahmud Ghaznawi. The village was founded in 662 Hijra by Ghulam Haidar who migrated from Mahmudpur. The name Barsat is said to be due to the fact that it gives the date of foundation by the *abjad* computation. The Sayads differ in their customs in certain

CHAP. IV. — Places of Interest.

particulars from the other Sayads of the tahsil. The village has a population of 1,050 only and contains two primary schools, one for boys and one for girls and a branch post office. The place suffers much from floods.

Ismailabad.

A village, with a population of 1,616, a post office, and a district board primary school. The thana, which used to exist here, was removed in 1904 to Thaska Miranji because of the unhealthiness of the village.

Arnauli.

A small village, about 8 miles from Patiala, containing a population of 704, is famous only as being the seat of the Arnauli family. With the exception of the fortified residence of the jagirdars there is no building of importance.

Sidhowal.

Like Arnauli, Sidhowal is famous only as the seat of the Sirdars of Sidhowal. The village is three miles to the north-west of Patiala.

Gharaunda.

A large village on the Grand Trunk Road, 10 miles from Karnal with a population of 5,184, a district board vernacular middle school, a branch post office, and a railway station on the Delhi-Umballa-Kalka Railway. Of the historical sarai nothing is left but the gateways, and they are fast falling to ruin. The walls and buildings were pulled down and the bricks sold as ballast to the railway between 1880 and 1890.

Jundla.

A village of 3,290 inhabitants on the high road from Karnal to Asandh. The village is now the head-quarters of a zail and contains a district board vernacular primary school and a post office. A local fair is held on Thursday in June and July. The Jundla Rajputs are considered the aristocracy of the Chauhan Rajputs of the district.

Shamgarh.

Shamgarh, a village of some 1,500 inhabitants, contains a fort, used by the Sirdar of Shamgarh as a residence.

Pundri.

The town of Pundri lies within the 48 kos of the Kurukshetra. The name is derived from the Pundrak tank which was dug out in the time of Mahabharata, and is fringed by many picturesque bathing ghats and temples.

The town is chiefly important as a grain market, being the centre at which the grain produced in the southern half of the Kaithal tahsil is collected for transference by the main road to Karnal. The population is estimated at nearly 6,000. The municipality no longer exists.

There is a post and telegraph office and a flourishing Anglo-Vernacular middle school with a boarding-house and a girls' school. CHAP. IV. Places of Interest.

Asandh. Asandh is a large village of Mussalman Rajputs lying on the Kaithal-Panipat road. In 1857 the villagers refused to pay revenue, drove out the patwari and assaulted the constables. The Police fled to Rajaundh, a village which not only remained staunch but patrolled the road for some distance to guard against the dacoities of the men of Asandh, who left their homes to pillage the countryside. The Deputy Commissioner marched to the spot and gave Asandh to be looted, an act which compelled to loyalty many wavering villages. The fort was demolished in 1857. The village previously enjoyed an evil reputation for cattle thieving. But the introduction of the canal and the consequent increase in prosperity has somewhat diminished the prevalence of the crime. The village contains two rest-houses, a dispensary, a police station, a primary school and a post office.

Biana. This village contains an old fort belonging to the Kunjpura family. It has a population of 1,433, with a District Board primary school.

Nisang. A Rajput village in the Nardak, with a population of about 2,000, lying 15 miles west of Karnal, first stage on the road to Kaithal. It contains a public rest-house, a police station, a branch post office and a district board village primary school. Adjoining the police station is a branch of the Karnal Military Dairy Farm.

Rajaundh. The village is of extreme antiquity, being mentioned in the Mahabharata. The name is said to be derived from "Raja-hand" or the prison of the Rajas, and to be due to the fact that it contained a fortress used as a prison, the well of which remains to this day. The village became deserted, but was re-populated by one Raja, a Rajput, whose five sons sub-divided the estate into the five pattis at present existing. The village contains a district board primary school, a police station with accommodation for officers and a post office. A Canal rest-house is situated at Mandwal, 4 miles distant. The village stood firm in the mutiny when Asandh revolted.

Budha-Khera. Budha-Khera is a village in the Karnal tahsil with a population of 794, containing no Government buildings, but a centre of local interest.

CHAP. IV.

Places of Interest.

Budha-Khera.

The name is said to be derived from a Joqi named Budha, who, about the 12th century, built a temple here. But there was no cultivation until Bu Ali Shah Qalandar induced his relatives to found the village. The original wall, on which the saint rode, has been enclosed by a masonry dome and is held in reverence. Services are maintained by a faqir and the shrine is in part supported by muafi grants.

Guhla.

Guhla, a small village near the borders of Patiala, is the head-quarters of a sub-tahsil, and contains a bungalow and a thana. The situation is not a happy one, water being bad, the inhabitants few, and the white ants abundant. Half the villages is in jagir to the Sayad family which at present hold the zaildari, and they have hereditary charge of a local shrine. An annual fair is held in June at which scolding women are compelled to duck their heads through a hole in a wall and be thereby cured of their failing. Moreover wishes made by ordinary persons during the lucky day are ensured of fulfilment. Guhla is mentioned by Timur in his memoirs as the place where his invading army crossed the Ghaggar by a bridge which is still to be seen in the old Puran Branch of the river.

30 DLR—550—7-11-18—SGPP Lahore.

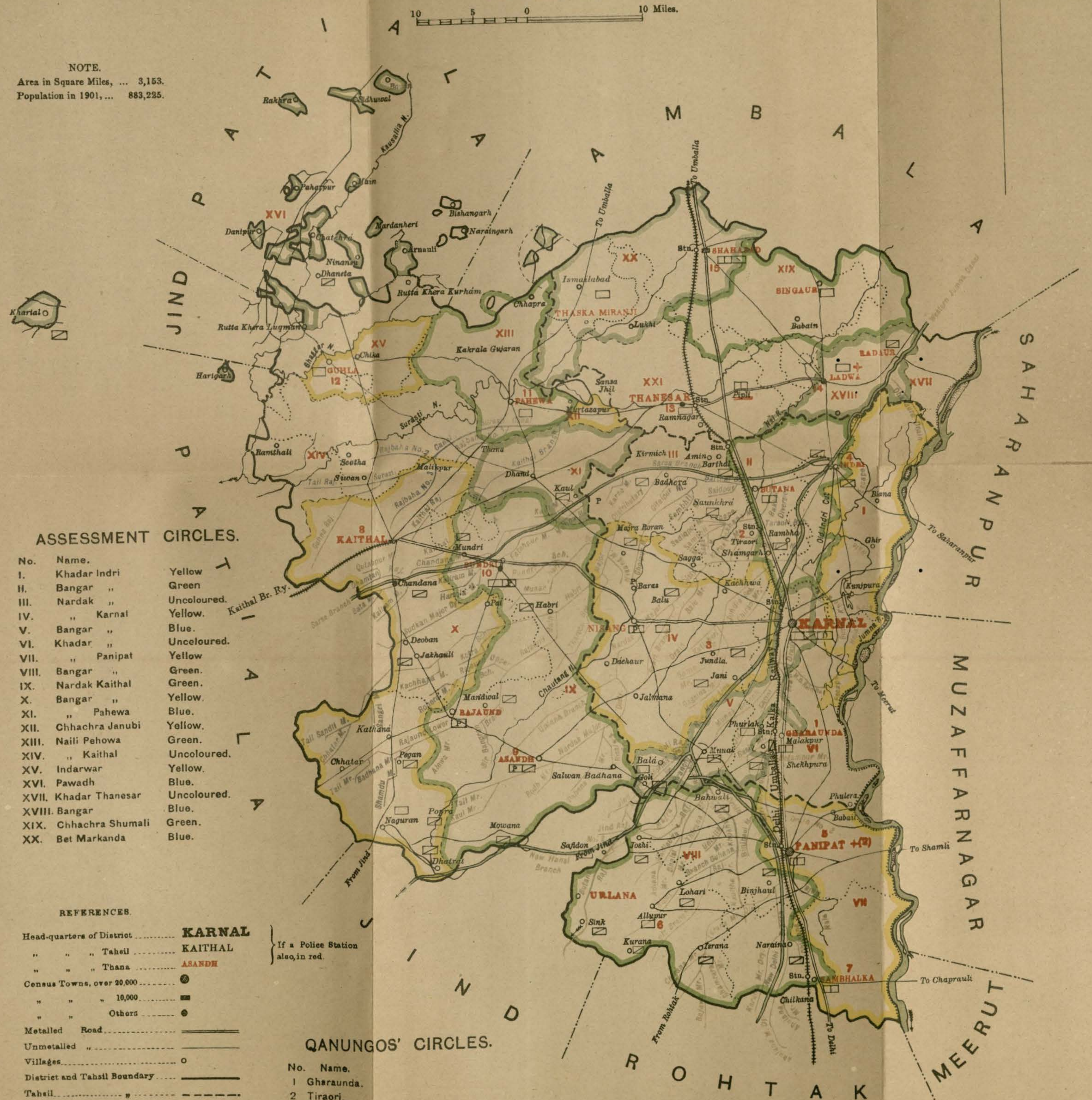
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Map OF THE KARNAL DISTRICT.

(No. 1).

Scale—1 Inch = 8 Miles.

NOTE.
Area in Square Miles, ... 3,153.
Population in 1901, ... 883,225.



ASSESSMENT CIRCLES.

No.	Name.	
I.	Khadar Indri	Yellow
II.	Bangar "	Green
III.	Nardak "	Uncoloured.
IV.	" Karnal	Yellow.
V.	Bangar "	Blue.
VI.	Khadar "	Uncoloured.
VII.	" Panipat	Yellow
VIII.	Bangar "	Green.
IX.	Nardak Kaithal	Green.
X.	Bangar "	Yellow.
XI.	" Pahewa	Blue.
XII.	Chhachra Janubi	Yellow.
XIII.	Naili Pehowa	Green.
XIV.	" Kaithal	Uncoloured.
XV.	Indarwar	Yellow.
XVI.	Pawadh	Blue.
XVII.	Khadar Thanesar	Uncoloured.
XVIII.	Bangar	Blue.
XIX.	Chhachra Shumali	Green.
XX.	Bet Markanda	Blue.

REFERENCES.

Head-quarters of District .... KARNAL
" " " Tahsil .... KAITHAL } If a Police Station also, in red.
" " " Thana .... ASANDH
Census Towns, over 20,000 ....
" " " 10,000 ....
" " Others ....
Metalled Road ....
Unmetalled " ....
Villages .... o
District and Tahsil Boundary ....
Tahsil " ....
Railway ....
River ....
Canal ....
Assessment Circles ....
Qanungos " ....

REST-HOUSES.

District ....
Canal ....
Police ....
Police Outpost .... Pipli
Public Works Department ....

QANUNGOS' CIRCLES.

No.	Name.
1	Gharaunda.
2	Tiraori.
3	Jundla.
4	Indri.
5	Panipat.
6	Allupur.
7	Sanbhalkha.
8	Kaithal.
9	Asandh.
10	Pundri.
11	Pehowa.
12	Guhla.
13	Thanesar.
14	Ladwa.
15	Shahabad.

Photo.-Mechl. and Litho. Dept., Thomason College, Roorkee.

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